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MANTIS XREF
OS/390, VSE/ESA, OpenVMS

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AD/Advantage® MANTIS XREF, OS/390, VSE/ESA, OpenVMS

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Contents

About this book

Using this document

MANTIS® is an application development system that consists of design facilities (for example, screens and files) and a programming language. This manual explains how to use the MANTIS XREF system to obtain information on the processing of online inquiries. Prerequisites for using XREF include a general knowledge of the concepts and facilities of MANTIS.

Document organization

The information in this manual is organized as follows:

Chapter 1—XREF overview
Describes when to use XREF, how it works, and how to sign on.

Chapter 2—Online inquiries
Explains how to use XREF to list names of elements and entities, identify relationships within MANTIS, and identify external relationships.

Chapter 3—XREF index maintenance
Describes how to perform index maintenance in IBM® environments.

Chapter 4—Batch reports
Briefly discusses batch reporting in IBM environments.

Appendix A—Messages
Alphabetically lists error messages that may display when using XREF.

Appendix B—Quick reference
Shows the sequence of screens and all the cross-reference options that XREF offers.

Glossary of terms

Index

Conventions

The following table describes the conventions used in this document series:

Convention	Description	Example

`Constant width type`	Represents screen images and segments of code.	`Screen Design Facility`
		`GET NAME LAST`
		`INSERT ADDRESS`

Slashed b (b̸)	Indicates a space (blank). The example indicates that a password can have a trailing blank.	`WRITEPASSb̸`
Brackets [ ]	Indicate optional selection of parameters. (Do not attempt to enter brackets or to stack parameters.) Brackets indicate one of the following situations.	
	A single item enclosed by brackets indicates that the item is optional and can be omitted. The example indicates that you can optionally enter a program name.	`COMPOSE [`*`program-name`*`]`
	Stacked items enclosed by brackets represent optional alternatives, one of which can be selected. The example indicates that you can optionally enter NEXT, PRIOR, FIRST, or LAST. (NEXT is underlined to indicate that it is the default.)	**NEXT** **PRIOR** **FIRST** **LAST**

Convention	Description	Example
Braces { }	Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select. The example indicates that you must enter FIRST, LAST, or a value for *begin*.	$\left\{\begin{array}{l}\textbf{FIRST}\\ \textit{begin}\\ \textbf{LAST}\end{array}\right\}$
Underlining (In syntax)	Indicates the default value supplied when you omit a parameter. The example indicates that if you do not specify ON, OFF, or a row and column destination, the system defaults to ON.	$\textbf{SCROLL}\left[\begin{array}{l}\underline{\textbf{ON}}\\ \textbf{OFF}\\ [\textit{row}][,\textit{col}]\end{array}\right]$
	Underlining also indicates an allowable abbreviation or the shortest truncation allowed. The example indicates that you can enter either PRO or PROTECTED.	<u>PRO</u>TECTED
Ellipsis points...	Indicate that the preceding item can be repeated. The example indicates that you can enter (A), (A,B), (A,B,C), or some other argument in the same pattern.	(*argument*,...)

Convention	Description	Example
UPPERCASE	Indicates MANTIS reserved words. You must enter them exactly as they appear. The example indicates that you must enter CONVERSE exactly as it appears.	`CONVERSE name`
Italics	Indicate variables you replace with a value, a column name, a file name, and so on. The example indicates that you can supply a name for the program.	`COMPOSE [program-name]`
Punctuation marks	Indicate required syntax that you must code exactly as presented. ( ) parentheses . period , comma : colon ; semicolon ' single quotation mark " " double quotation marks	$[\text{LET}]_v \begin{bmatrix} (i) \\ (i,j) \end{bmatrix} [\text{ROUNDED}(n)] = e1\,[,e2,e3\dots]$

MANTIS documentation series

MANTIS is an application development system designed to increase productivity in all areas of application development, from initial design through production and maintenance. MANTIS is part of AD/Advantage®, which offers additional tools for application development. Listed below are the manuals offered with MANTIS in the IBM mainframe environment, organized by task. You may not have all the manuals listed here.

MASTER User tasks

♦ *MANTIS Installation, Startup, and Configuration, MVS/ESA, OS/390,* P39-5018

♦ *MANTIS Installation, Startup, and Configuration, VSE/ESA,* P39-5019

♦ *MANTIS Administration, OS/390, VSE/ESA*, P39-5005

♦ *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*

♦ *MANTIS Administration Tutorial, OS/390, VSE/ESA,* P39-5027

♦ *MANTIS XREF Administration, OS/390, VSE/ESA*, P39-0012

General use

♦ *MANTIS Quick Reference, OS/390, VSE/ESA*, P39-5003

♦ *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001

♦ *MANTIS Language, OS/390, VSE/ESA*, P39-5002

♦ *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013

♦ *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*

♦ *AD/Advantage Programming*, P39-7001

♦ *MANTIS DB2 Programming, OS/390, VSE/ESA*, P39-5028

- ♦ *MANTIS SUPRA SQL Programming, OS/390, VSE/ESA*, P39-3105

- ♦ *MANTIS XREF, OS/390, VSE/ESA, OpenVMS*, P39-0011

- ♦ *MANTIS Entity Transformers*, P39-0013

- ♦ *MANTIS DL/I Programming, OS/390, VSE/ESA*, P39-5008

- ♦ *MANTIS SAP Facility, OS/390, VSE/ESA*, P39-7000

- ♦ *MANTIS WebSphere MQ Programming*, P39-1365

- ♦ *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026

NOTE
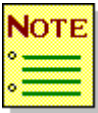
Manuals marked with an asterisk (*) are listed twice because you use them for multiple tasks.

Educational material

AD/Advantage and MANTIS educational material is available from your regional Cincom education department.

1

XREF overview

XREF lets you view list and cross-reference information for the entities and elements on the MANTIS cluster. You can use XREF to:

♦   Identify relationships within MANTIS (entity-to-entity and element-to-entity).

♦   Identify relationships MANTIS has with external files (VSAM for IBM, RMS for OpenVMS) and with DBMS files (TOTAL and SUPRA for IBM, ULTRA for Open/VMS and Unix).

XREF scans the MANTIS cluster and builds its own index/cross-reference file. The online inquiry facility lets you view lists and cross-references of MANTIS elements and entities, as described in "Online inquiries" on page 19. This chapter provides an overview of XREF and explains how to sign on to XREF.

When to use XREF

You generally use XREF to determine the impact of change to your existing system, or when you want to look at the names of MANTIS entities or SUPRA® views. You can use the list functions of XREF to check naming standards for consistency. When you are ready to make a change in your system, you can use XREF to determine:

♦   If you change the length of a MANTIS element, which screens, files, and programs will have to be changed.

♦   If you modify an external file view (TOTAL view, SUPRA RDM view, etc.), whether any other programs will be affected.

♦   The impact of changing a view.

♦   Whether deleting a view will reduce future maintenance problems.

♦   The views that access an External VSAM or RMS file, TOTAL file, or DL/I segment.

♦   If you change an entity, which MANTIS programs will need to be rebound.

♦   The definitions at a given offset within a file and all of the possible data mappings against all those fields.

For example, for the IBM environment, the BINDING function from MANTIS improves performance. However, if a program has been bound, and an entity it uses is changed, all programs using this entity require rebinding. You can use XREF to display a list of all programs that use this entity. XREF can also produce an input deck to be used to bind those programs in batch.

How XREF works

The index cross-reference file of XREF is the base for the inquiry facility of XREF. The index creation/maintenance component scans information from the MANTIS cluster and produces a file of index and cross-reference records. This component is run as needed and consists of a batch job with two parts. First, the MANTIS cluster is scanned for selected information; then, a Batch MANTIS program creates cross-reference records (see the figure on the next page).

The online inquiry facility of XREF displays information directly from the index file about usage or definitions of the following entities and elements:

♦ MANTIS entities

♦ SUPRA RDM views

♦ MANTIS data elements and definitions

♦ Physical data base definitions derived from MANTIS definitions

♦ External entities (VSAM, RMS, TOTAL, SUPRA, DL/I) and their relationships to MANTIS

The following figure provides a graphic overview of MANTIS XREF.

Running XREF

Your System Administrator can provide you with XREF as an option on your Facility (Menu) screen. Otherwise:

1. Select option 1 (Run a Program by Name)

2. On the Run a Program by Name screen, enter:

   ```
   CSI_XREF:MENU
   ```

3. Press ENTER.

The XREF main menu will appear, as shown below:

```
XRF001                  MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                                Menu                   Last Upd YYYY/MM/DD HH:MM
                               ------
Please Select One Of The Following ==>    :

----External Entities----    ---Data Elements---     ------XREF Info--------
DL. DL/I - IMS Menu            NL. Name List          NO. Limitations
EE. Menu                       NX. Name XRef          PF. PF-Key Usage
                                                      RN. Release News
----MANTIS Entities------
----List--------     ----What--------    -----XRef-------    ----UnRef.------
LA. Ext. Access      WA. Ext. Access     XA. Ext. Access     UA. Ext. Access
LF. MANTIS Files     WF. MANTIS Files    XF. MANTIS Files    UF. MANTIS Files
LH. Prompters        WH. Prompters       XH. Prompters       UH. Prompters
LI. Interfaces       WI. Interfaces      XI. Interfaces      UI. Interfaces
LP. Programs         WP. Programs        XP. Programs        UP. Programs
LS. Screens          WS. Screens         XS. Screens         US. Screens
LT. DBMS Views       WT. DBMS Views      XT. DBMS Views      UT. DBMS Views
LU. Users
LV. RDM Views                            XV. RDM Views

PA2 = Stop   PF1 = Help   Clear = Exit      SI = Sign-On    TU = Tutorial
```

> **NOTE**
>
> PA2 corresponds to the Cancel (CTRL-Z) function in MANTIS for Open/VMS and Unix. Options DL and TU are not available in the Open/VMS and Unix environments.

The options on this menu are described in "Online inquiries" on page 19.

The following figure shows the sequence for accessing screens from the menu.

```
                           ┌─────────────┐
                           │    XREF     │
                           │  Main Menu  │
                           └─────────────┘
                    ┌─────────────┴──────────────┐
            ┌───────────────┐            ┌──────────────┐
            │   External    │            │     DL/I     │
            │   Entities    │            │   Sub-Menu   │
            │   Sub-Menu    │            │     (DL)     │
            │     (EE)      │            └──────────────┘
            └───────────────┘
  ┌──────────┬──────────┬──────────┬──────────┬──────────┬──────────┐
┌────────┐ ┌────────┐ ┌────────┐ ┌──────────┐ ┌────────┐ ┌────────┐
│Elements│ │Elements│ │Entities│ │ Entities │ │Entities│ │Entities│
│  List  │ │  XREF  │ │  List  │ │ Used by  │ │  XREF  │ │ Unref. │
│  (NL)  │ │  (NX)  │ │ (LIST) │ │ Programs │ │ (XREF) │ │(UNREF) │
└────────┘ └────────┘ └────────┘ │  (WHAT)  │ └────────┘ └────────┘
                                 └──────────┘
```
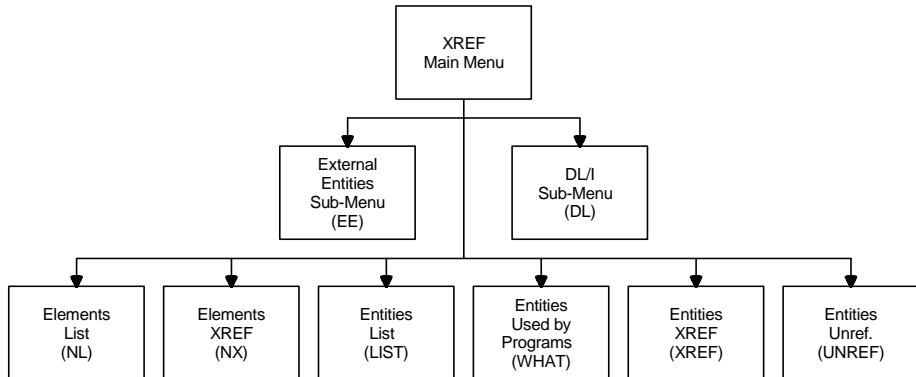
The next chapter explains how to use the online inquiry facility of XREF to display cross-reference information.

2

Online inquiries

This chapter assumes that you have signed on to XREF, as described in "XREF overview" on page 13, and that your System Administrator has created your index/cross-reference file of MANTIS entities. Once this file is created, you are ready to use the inquiry facility of XREF to display cross-reference information.

This chapter explains how to use XREF to:

♦ List names of elements and entities

♦ Identify relationships within MANTIS (entity-to-entity and element-to-entity)

♦ Identify relationships MANTIS has with external files (VSAM for IBM, RMS for VAX) and with DBMS files (TOTAL and SUPRA for IBM, ULTRA for Open/VMS and Unix)

Signing on to XREF

When you sign on to XREF, the XREF Main Menu is displayed as shown in the following screen illustration:

```
XRF001                  MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                                Menu                    Last Upd YYYY/MM/DD HH:MM
                                ------
Please Select One Of The Following ==>   :

----External Entities----    ---Data Elements---     ------XREF Info--------
DL. DL/I - IMS Menu              NL. Name List            NO. Limitations
EE. Menu                         NX. Name XRef            PF. PF-Key Usage
                                                          RN. Release News
----MANTIS Entities------
----List--------     ----What--------     -----XRef-------     ----UnRef.------
LA. Ext. Access      WA. Ext. Access      XA. Ext. Access      UA. Ext. Access
LF. MANTIS Files     WF. MANTIS Files     XF. MANTIS Files     UF. MANTIS Files
LH. Prompters        WH. Prompters        XH. Prompters        UH. Prompters
LI. Interfaces       WI. Interfaces       XI. Interfaces       UI. Interfaces
LP. Programs         WP. Programs         XP. Programs         UP. Programs
LS. Screens          WS. Screens          XS. Screens          US. Screens
LT. DBMS Views       WT. DBMS Views       XT. DBMS Views       UT. DBMS Views
LU. Users
LV. RDM Views                             XV. RDM Views

PA2 = Stop   PF1 = Help   Clear = Exit      SI = Sign-On   TU = Tutorial
```
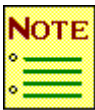
> **NOTE**
>
> PA2 corresponds to the Cancel (CTRL-Z) function in MANTIS for Open/VMS and Unix. Options DL and TU are not available in the Open/VMS and Unix environments.

XREF offers two types of functions: list functions and cross-reference functions. List functions provide all the names of a specified entity or element type for you to scroll through. From list functions you can perform cross-reference functions (described in "List functions" on page 26).

You use cross-reference functions when you know the name of the entity or element that you want to cross-reference. Cross-reference functions let you bypass list functions and go directly to the cross-reference information. XREF offers two types of cross-reference screens: one for entities and one for elements. All entity cross-reference screens are exactly the same whether you access them through a list function or from a menu (the XREF Main Menu, the DL/I Submenu, or the External Entities Submenu). Element cross-reference screens are also the same whether you access them through a list function or from a menu. Both types of cross-reference screens are shown and explained later in

Selecting options

To select an option from the XREF Main Menu (see the screen illustration under), enter the 2-character code corresponding to the option in the action field, as described below.

PLEASE SELECT ONE OF THE FOLLOWING ==> :

Description	*Required*. This field is the action field where you specify which type of information on the XREF index you want to view.
Format	Any 2-character code on this screen
Consideration	The tables on the following pages show what type of information is displayed for each option on the XREF Main Menu. Options in this table are listed in the order that they appear on the XREF Main Menu. To help you categorize the options on the XREF Main Menu, options in the table are grouped under headings.

Submenu option	Displays this information
DL (DL/I Menu)	DL/I Submenu with list and cross-reference options (for the IBM environment only)
EE (External Entities)	External Entities Sub-menu with list and cross-reference options

Informational option	Displays this information
NO (Not Offered)	Limitations of XREF
PF (PF Keys)	Information on PF keys
RN (Release News)	Information on this release of XREF

List option	Displays this information
NL (Name List)	Data element names
LA (List Accesses)	External file view names (VSAM or RMS)
LF (List Files)	MANTIS files
LH (List Help)	Prompters
LI (List Interfaces)	Interfaces
LP (List Programs)	Programs
LS (List Screens)	Screens
LT (List TOTAL)	DBMS views (TOTAL or ULTRA)
LU (List Users)	Users known to XREF
LV (List Views)	RDM views
SI (Sign on)	Sign on as another user
TU (Tutorial)	XREF online tutorial
UA (Unref. Accesses)	External files not referenced by MANTIS programs
UF (Unref. Files)	MANTIS files not referenced by MANTIS programs
UH (Unref. Help)	Prompters not referenced by MANTIS programs
UI (Unref. Interfaces)	Interfaces not referenced by MANTIS programs
UP (Unref. Programs)	Programs not referenced by other MANTIS programs

Cross-reference option	Displays this information
US (Unref. Screens)	Screens not referenced by MANTIS programs
UT (Unref. TOTAL)	DBMS views not referenced by MANTIS programs
NX (Name XREF)	MANTIS entities that use a specified element
WA (What Accesses)	Elements used by a specified external file
WF (What Files)	Elements used by a specified MANTIS file
WH (What Help)	Prompters used by a specified prompter
WI (What Interfaces)	Elements used by a specified interface
WP (What Programs)	Entities used by a specified program
WS (What Screens)	Elements used by a specified screen
WT (What TOTAL)	Elements used by a specified DBMS view
XA (XREF Accesses)	Programs that use a specified external file
XF (XREF Files)	Programs that use a specified MANTIS file
XH (XREF Help)	Programs that use a specified prompter
XI (XREF Interfaces)	Programs that use a specified interface
XP (XREF Programs)	Programs that use a specified program
XS (XREF Screens)	Programs that use a specified screen
XT (XREF TOTAL)	Programs that use a specified DBMS view
XV (XREF RDM Views)	Programs that use a specified RDM view

General considerations

♦ On any of the list options (except for NL, LU, and LV), you can enter "*nn*,W" to display a list of the programs that use the entity you specify ("*nn*" is a number in the range 1–30, representing one of the entities listed on the screen, and "W" represents "what-it-uses"). After entering *nn*,W, a cross-reference screen displays.

♦ On the LP option (List Programs), a dash before the program name on the list means that the specified program refers to the listed program. Without a dash, the listed program refers to the specified program.

♦ XREF processes variable entities for the name, but not for the assignments into the name. So, the variable name displays on XREF screens as a soft-coded variable and is noted with an asterisk (*) before and after the name.

♦ When prefixed entities are used, data element names that are cross-referenced are the prefixed names, not the names in the entity. Only variables referred to in the program appear on XREF screens.

♦ Variable library names that consist of more than one component (*name_name*) are truncated to the first component. The actual text assignments into variable library names are not cross-referenced. To determine the real values, consult the programs.

♦ You cannot cross-reference scenarios.

"List functions" on page 26 describes List functions; "Cross-reference functions" on page 34 describes cross-reference functions.

The following table shows where the specific options on the XREF Main Menu are described in this chapter:

Option	Description	Section
EXTERNAL ENTITIES		"External entities" on page 66
DL	DL/I and IMS submenu (IBM only)	"DL. DL/I—IMS menu" on page 67
EE	External entities submenu	"EE. menu" on page 70
DATA ELEMENTS		"DATA ELEMENTS" on page 73
NL	All data element names	"NL. Name List" on page 73
NX	MANTIS entities that use selected data element name	"NX. Name XREF" on page 73
XREF INFO		"XREF Info" on page 74
NO	Limitations of the index	"NO. limitations" on page 74
PF	Information on PF keys	"PF. PF key usage" on page 74
RN	Information on this release of XREF	"RN. Release News" on page 74
LIST MANTIS ENTITIES		"LIST" on page 75
WHAT MANTIS ENTITIES		"WHAT (What-it-uses)" on page 79
XREF MANTIS ENTITIES		"XREF" on page 86
UNREF. MANTIS ENTITIES		"UNREF." on page 90
Additional Main Menu Options		"Additional Main Menu options" on page 93
PA2 = STOP		"Pa2 = STOP" on page 93
PF1 = HELP		" PF1 = HELP" on page 93
CLEAR = EXIT (IBM only)		"CLEAR = EXIT" on page 93
SI = SIGN-ON (IBM only)		"SI = SIGN-ON" on page 93
TU = TUTORIAL (IBM only)		"TU = TUTORIAL" on page 93

List functions

List functions are used to display all the names of elements and entities. You can use list functions to check naming standards for elements and entities and when you don't know the name of the entity or element that you want to cross-reference. (If you do know the specific name, you can bypass list functions and go directly to the cross-reference functions, as described in "Cross-reference functions" on page 34.) From list functions, you can perform these cross-reference functions:

♦ **Where-used cross-reference (enter *nn* and press ENTER).**
Perform the following:

1. In the action field, enter the number corresponding to the entity or element.

2. Press ENTER.

One of the following lists will appear:

- Programs that use the specified entity

- Entities that use the specified element

♦ **What-it-uses cross-reference (enter *nn*,W and press ENTER).**
Perform the following:

1. In the action field, enter the number corresponding to an entity or element.

2. In the action field, follow the entity or element number with ",W".

3. Press ENTER.

A list of the elements used by the specified entity (for all LIST options on the XREF Main Menu except NL, LU, and LV) will appear. For programs (LP option), two screens will appear:

- First-level screen—Shows entities used by the specified program.

- Second-level screen (accessed by pressing ENTER to scroll forward)—Shows elements used by the specified program.

♦ **Physical-to-logical cross-reference (enter *nn* and press PF2).**
Perform the following:

1. In the action field, enter the number corresponding to an entity or element.

2. Press PF2.

A physical-to-logical cross-reference will appear. Two different screens can be displayed:

- Entities

- Elements

In a physical-to-logical cross-reference, a physical external entity (such as a VSAM file, RMS file, or TOTAL file) is referred to by a logical MANTIS entity.

The following table shows all List functions offered by XREF (on the XREF Main Menu, the DL/I Submenu, and the External Entities Submenu), the type of information the List functions display, and which cross-reference screens you can access from each List function.

Main menu list option	Displays this information	Where-used cross-ref*	What-it-uses cross-ref**
NL (Name List)	MANTIS data element names	X	
LA (List Accesses)	External file view names	X	X
LF (List Files)	MANTIS files	X	X
LH (List Help)	Prompters	X	X
LI (List Interfaces)	Interfaces	X	X
LP (List Programs)	Programs	X	X
LS (List Screens)	Screens	X	X
LT (List TOTAL)	DBMS views	X	X
LU (List Users)	Users	X	
LV (List Views)	RDM views	X	
UA (Unref. Accesses)	External files not referenced by MANTIS programs		
UF (Unref. Files)	MANTIS files not referenced by MANTIS programs		
UH (Unref. Help)	Prompters not referenced by MANTIS programs		
UI (Unref. Interfaces)	Interfaces not referenced by MANTIS programs		
UP (Unref. Programs)	Programs not referenced by other MANTIS programs		
US (Unref. Screens)	Screens not referenced by MANTIS programs		
UT (Unref. TOTAL)	DBMS views not referenced by MANTIS programs		

*   Enter *nn* and press ENTER
**   Enter *nn*,W and press ENTER

External entities list option	Displays this information	Where-used cross-ref*	Physical / logical cross-ref**
LA (List Accesses)	External file data area	X	X
LC (List Called)	Called interface programs	X	X
LD (List DBMS)	DBMS files	X	X
LE (List Elements)	DBMS elements	X	X
LF (List Files)	External files	X	X
LI (List Interfaces)	Interface area layout	X	X
LL (List Linkpaths)	DBMS linkpaths	X	X
LP (List Performed)	PERFORMed programs	X	
LX (List XCTL)	PERFORM/XCTL programs	X	
SQ (SQL)	MANTIS SQL programs		

*   Enter *nn* and press ENTER
**   Enter *nn* and press PF2

DL/I list option (IBM only)	Displays this information	Where-used cross-ref*	Physical / logical cross-ref**
DL (DL/I List)	DL/I element names for elements in DL/I Call Profiles	X	X
LA (List Accesses)	Generated names for DL/I physical segment layouts	X	X
LD (List Definition)	DL/I segment layout definitions	X	
LP (List PSBs)	DL/I PSB names used in MANTIS Call Profiles	X	
LQ (List Qualified)	MANTIS Qualified Call Profiles	X	
LS (List Segments)	DL/I segment names used in MANTIS Call Profiles	X	
LU (List Unqualified)	MANTIS Unqualified Call Profiles	X	
UD (Unref. DL/I)	Unreferenced DL/I segment layout		
UQ (Unref. Qualified)	Unreferenced Qualified Call Profiles (those not referenced by the second parameter in the CALL statement)		
UU (Unref. Unqualified)	Unreferenced Unqualified Call Profiles (those not referenced by the second parameter in the CALL statement)		

*   Enter *nn* and press ENTER
**   Enter *nn* and press PF2

When you access a List function, the screen shown in the following illustration appears and displays the names of the entities or elements you selected.

```
MANT XREF                MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                            Entity Name Listing
                            EXTERNAL FILE VIEWS
  1    DR                                 2   TEST
  3    TEST_XX                            4
  5                                       6
  7                                       8
  9                                      10
 11                                      12
 13                                      14
 15                                      16
 17                                      18
 19                                      20
 21                                      22
 23                                      24
 25                                      26
 27                                      28
 29                                      30

Hit Enter To Page, Or Enter A New Name ==>
Or Select Entity No.(1 - 30) For Entity-XREF.        PF3 = Menu,  PA2 = Stop
I001 NO MORE ENTITIES OF THIS TYPE ON THE INDEX
```

This screen lists names alphabetically. To scroll a list function screen, press ENTER. The next screen will display more names. The numbering on the list function screen will remain 1–30 and will not increase.

---

type of list

Description   Identifies the type of list (for a specified type of entity or element).

---

name

Description   Lists names of entities or elements alphabetically.

Considerations

♦   A name appears only once, even if several different MANTIS user libraries contain this entity type or element by this name.

♦   RDM view names are stored with hyphens, not underscores, regardless of how the name is coded in the MANTIS program.

♦   An asterisk (*) displayed before and after a name indicates a variable name and not a constant.

Enter A New Name ==> (*action field*)

Description	*Optional.* The action field lets you specify where the list should display alphabetically or the type of cross-reference you want to view.
Format	A number in the range 1 to 30, or a name starting with an alphabetic character.
Options	

♦ **Search.** To search for a name:

1. In the action field, enter characters representing a name (or the first part of a name).

2. Press ENTER.

   The directory list repositions itself to the name matching the entered name. If the entered name matches no screen name in the directory list, the directory list repositions itself to the next valid screen name alphanumerically following the entered name (or partial name).

♦ **Where-used cross-reference (enter *nn* and press ENTER).** Perform the following:

1. In the action field, enter the number corresponding to the entity or element.

2. Press ENTER.

One of the following lists will appear:

- Programs that use the specified entity

- Entities that use the specified element

♦ **What-it-uses cross-reference (enter *nn*,W and press ENTER).**
Perform the following:

1. In the action field, enter the number corresponding to an entity or element.

2. In the action field, follow the entity or element number with ",W".

3. Press ENTER.

A list of the elements used by the specified entity (for all LIST options on the XREF Main Menu except NL, LU, and LV) will appear. For programs (LP option), two screens will appear:

- First-level screen—Shows entities used by the specified program.

- Second-level screen (accessed by pressing ENTER to scroll forward)—Shows elements used by the specified program.

♦ **Physical-to-logical cross-reference (enter *nn* and press PF2).**
Perform the following:

1. In the action field, enter the number corresponding to an entity or element.

2. Press PF2.

A physical-to-logical cross-reference will appear. Two different screens can be displayed:

- Entities

- Elements

In a physical-to-logical cross-reference, a physical external entity (such as a VSAM file, RMS file, or TOTAL file) is referred to by a logical MANTIS entity.

General considerations

♦ The list of users (LU option on the XREF Main Menu) also displays the system-maintained number of each user (under the heading NR).

♦ The list of programs that use SQL (SQ option on the External Entities Submenu) also displays the program library (under the heading PL) and the entity library (under the heading EL) for each program on the list.

♦ On entity lists, there may be an asterisk (*) before and after a name indicating a variable name for that entity.

Cross-reference functions

You use cross-reference functions when you know the name of the entity or element that you want to cross-reference. (If you don't know the specific name, use the List functions, as described in "List functions" on page 26.) Cross-reference functions let you bypass list functions and go directly to the cross-reference information.

XREF offers two types of cross-reference screens: one for entity-to-entity and one for element-to-entity. All entity cross-reference screens are exactly the same whether you access them through a list function or from a menu (the XREF Main Menu, the DL/I Submenu, or the External Entities Submenu). Element cross-reference screens are also the same whether you access them through a list function or from a menu. Both types of cross-reference screens are shown and explained in this section.

The following tables show all cross-reference functions offered on the XREF Main Menu, the DL/I Submenu, and the External Entities Submenu and the type of information they display.

Main menu cross-reference option	Displays this information
NX (Name XREF)	Entities that use an element
WA (What Accesses)	Elements referenced by an external file
WF (What Files)	Elements referenced by a MANTIS file
WH (What Help)	Prompters referenced by a prompter
WI (What Interfaces)	Elements referenced by an interface
WP (What Programs)	Entities referenced by a program
WS (What Screens)	Elements referenced by a screen
WT (What TOTAL)	Elements referenced by a DBMS view
XA (XREF Accesses)	Programs that reference an external file
XF (XREF Files)	Programs that reference a MANTIS file
XH (XREF Help)	Programs that reference a prompter
XI (XREF Interfaces)	Programs that reference an interface
XP (XREF Programs)	Programs that reference a program
XS (XREF Screens)	Programs that reference a screen
XT (XREF TOTAL)	Programs that reference a DBMS view
XV (XREF RDM View)	Programs that reference an RDM view

External entities cross-reference option	Displays this information
XA (XREF Accesses)	Views that reference an external view
XC (XREF Called)	Programs that reference a called interface program
XD (XREF DBMS)	Entities that reference a DBMS file
XE (XREF Elements)	Entities that reference a DBMS element
XF (XREF Files)	Entities that reference an external file view
XI (XREF Interfaces)	Entities that reference an interface area layout
XL (XREF Linkpaths)	Entities that reference a DBMS linkpath
XP (XREF PERFORMed)	Entities that reference a PERFORMed program
XX (XREF /XCTL)	Entities that reference a PERFORM/XCTL program

DL/I cross-reference option (IBM only)	Displays this information
DX (DL/I XREF names)	Entities that reference a DLI/IMS name
XD (XREF Definitions)	Entities that reference a PERFORM/XCTL segment layout definition
XP (XREF PSB)	Entities that reference a PSB
XQ (XREF Qualified)	Entities that reference a qualified call profile
XS (XREF Segments)	Entities that reference a segment
XU (XREF Unqualified)	Entities that reference an unqualified call profile

Where-used cross-references

XREF offers three different where-used cross-reference screens:

- ♦ **Programs that use a specified entity.** See "Where-used—programs that use an entity (enter nn and press Enter)" on page 38.

- ♦ **Entities that reference a physical entity.** See "Where-used—physical to logical (enter nn and press Enter)" on page 41.

- ♦ **Entities that use a specified element.** See "Where-used—entities that use an element (enter nn and press Enter)" on page 45.

Cross-reference functions display a cross-reference of entities that use an entity or an element. If you know the name of the entity or element you want to cross-reference, access one of the cross-reference functions on the XREF Main Menu, the DL/I Submenu, or the External Entities Submenu. The screen will appear for you to specify the entity or element. When you specify it, the screen redisplays, listing all MANTIS entities that use that entity or element.

If you do not know the name of the entity or element you want to cross-reference, access the List function for that entity or element and select the corresponding number on the List function (see the screen illustration in "List functions," beginning on page 26). The screen appears and lists all MANTIS entities that use that entity or element.

Where-used—programs that use an entity (enter *nn* and press ENTER)

The following screen appears when you access the following options:

♦ From the XREF Main Menu: LA, LF, LH, LI, LP, LS, LT, LU, LV and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and options XA, XF, XH, XI, XP, XS, XT, XV.

♦ From the External Entities Submenu: LC, LP, LX and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and option SQ.

```
MANT XREF                  MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
User :                        XREF For ACCESS

      The Following Entities Use  : TEST                            :
                                      :
 PL EL  T ------ Name ----------------- PL EL  T ------ Name ------------------












 Enter = Next-Page,  PF4 = New MANTIS User,  PA2 = Stop   Get User For No.
 I004 CHECK OR ENTER MANTIS USER NAME
```

User

Description   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

Considerations

♦   The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

♦   To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

♦   Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

♦   If the user name refers to a variable library name, a message indicating this displays to the right of this line.

entity type

Description   Specifies the type of entity you requested.

PL

Description   (Program Library) Specifies the library number for each listed program.

Consideration To obtain the user name for that library, access LU (List Users) from the XREF Main Menu or enter the number in the GET USER FOR NR field.

EL

Description   (Entity Library) Specifies the library number for the entity as defined in the listed program.

Consideration To obtain the user name for that library, access LU (List Users) from the XREF Main Menu or enter the number in the GET USER FOR NR field.

T

Description   (Type) For programs, this field contains a minus sign (-) if the specified program refers to the listed program.

Options   A   ACCESS (external file view)

C   Called interface program

D   DL/I segment layout

E   External program executed by 'PERFORM "*pppppp*" ' statement

F   MANTIS file view

H   Prompter

I   Interface

N   Unqualified DL/I call profile

P   Program

Q   Qualified DL/I call profile

S   Screen

T   DBMS file view (TOTAL or ULTRA)

V   RDM data view

X   External PERFORMed program (/XCTL)

1   DL/I segment name

2   DL/I PSB name

3   External file

4   DBMS file name

5   DBMS link path

Name

Description   Specifies the name of each program (or entity) that has a reference to the specified entity.

Get User For No. ###

Description   *Optional.* Entering a number in this field will display which user corresponds to that number.

Where-used—physical to logical (enter *nn* and press ENTER)

The following screen appears when you access the following options:

♦   From the DL/I Submenu: LD, LP, LQ, LS, LU, and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and options XD, XP, XQ, XS, XU.

♦   From the External Entities Submenu: LD, LF, LL and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and options XA, XC, XD, XF, XI, XL, XP, XX.

```
MANT XREF               MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
User :                      External Entity XREF
                            EXTERNAL FILES
External Entity Name :  TEST                     :
                            This Entity Is Used In:
T E.L ------Name-------------------    T E.L ------Name--------------------




















Enter Entity Name,  PF3 = Menu  PF4 = New MANTIS User,  PA2 = Stop
I004 CHECK OR ENTER MANTIS USER NAME
```

If you access this screen from one of the cross-reference functions on the External Entities Submenu, you cannot use the PF2 function to display a physical-to-logical cross-reference. To determine which programs use these entities, go back to the List function and use the physical-to-logical cross-reference.

The fields on this screen are described on the following pages.

User

> **Description**   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

> **Considerations**

>> ♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

>> ♦ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

>> ♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

>> ♦ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

type of cross-reference

> **Description**   Specifies the type of cross-reference; for example, External Entity XREF.

entity type

> **Description**   Specifies the type of entity you requested; for example, EXTERNAL FILES.

entity name

> **Description**   Specifies the name of the entity you specified.

> **Consideration**   To access a cross-reference for another entity, specify the name of that entity here and press ENTER.

T

Description   (Type) Specifies the type of entity listed.

Options   A   ACCESS (external file view)

C   Called interface program

D   DL/I segment layout

E   External program executed by 'PERFORM "*pppppp*" ' statement

F   MANTIS file view

H   Prompter

I   Interface

N   Unqualified DL/I call profile

P   Program

Q   Qualified DL/I call profile

S   Screen

T   DBMS file view (TOTAL or ULTRA)

V   RDM data view

X   External PERFORMed program (/XCTL)

1   DL/I segment name

2   DL/I PSB name

3   External file

4   DBMS file name

5   DBMS link path

E.L

> **Description**   (Entity Library) Specifies the library number of the entity listed.

> **Consideration** To obtain the user name for that library, access LU (List Users) from the XREF Main Menu or enter the number in the GET USER FOR NR field.

Name

> **Description**   Specifies the name of the listed entity.

Get User For No. *###*

> **Description**   *Optional.* Entering a number in this field will display which user corresponds to that number.

Where-used—entities that use an element (enter *nn* and press ENTER)

The following screen appears when you access the following options:

♦ From the XREF Main Menu: NL and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and option NX.

♦ From the DL/I Submenu: DL, LA and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and option DX.

♦ From the External Entities Submenu: LA, LE, LI and enter a number corresponding to an entity on that list (enter *nn* and press ENTER) and option XE.

```
MANT XREF                 MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
User :                         Data Element XREF
                               ----------------
      Element Name : TEST-00001                      :
                                            --------Element-----------
Lib Type -----Entity Name---------------    Type  Dim1 Dim2   Position












Enter Element Name,  PF3 = Menu,  PF4 = New MANTIS User,  PA2 = Stop
I004 CHECK OR ENTER MANTIS USER NAME
```

User

> **Description** Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

> **Considerations**

> > ♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

> > ♦ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

> > ♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

> > ♦ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

type of cross-reference

> **Description** Specifies which type of cross-reference this screen displays; for example, Data Element XREF.

Element Name

> **Description** Specifies the name of the element you requested.

> **Consideration** To access a cross-reference for another element, specify the name of that element here and press ENTER.

Lib

> **Description** (Library) Specifies the user library where the entity resides.

> **Consideration** To obtain the user name for that library, access LU (List Users) from the XREF Main Menu or enter the number in the GET USER FOR NR field.

Type

      Description   Specifies the type of entity.

      Options   A   ACCESS (external file view)

                          C   Called interface program

                          D   DL/I segment layout

                          E   External program executed by 'PERFORM "*pppppp*" ' statement

                          F   MANTIS file view

                          H   Prompter

                          I   Interface

                          N   Unqualified DL/I call profile

                          P   Program

                          Q   Qualified DL/I call profile

                          S   Screen

                          T   DBMS file view (TOTAL or ULTRA)

                          V   RDM data view

                          X   External PERFORMed program (/XCTL)

                          1   DL/I segment name

                          2   DL/I PSB name

                          3   External file

                          4   DBMS file name

                          5   DBMS link path

Entity Name

      Description   Specifies the MANTIS symbolic name of the entity.

Type

    Description   Specifies the type of element in that entity.

    Options   B   Binary

    E   Symbolic name for an entity

    F   Fixed decimal

    K   Kanji

    L   Large (Big)

    N   Numeric (screens only)

    P   Packed

    R   Reference variable (TOTAL & ACCESS views only)

    S   Small

    T   Text

    Z   Zoned decimal

    -   Dash means the item is referenced, but not defined

Dim1

    Description   (Dimension 1) Specifies the occurrences of the element.

Dim2

    Description   (Dimension 2) Specifies the length of the element.

Position

    Description   Specifies the position of the element in an access view or interface.

What-it-uses cross-references

XREF offers two different what-it-uses cross-reference screens:

♦ **Entities that a specified entity uses.** See "What-it-uses—entities that an entity uses (enter nn,W and press Enter)" on page 50.

♦ **Elements that a specified entity uses.** See "What-it-uses—elements that an entity uses (enter nn,W and press Enter)" on page 54.

Cross-reference functions display a list of entities that use an entity or an element. If you know the name of the entity or element you want to cross reference, access one of the cross-reference functions on the XREF Main Menu, the DL/I Submenu, or the External Entities Submenu. The screen will appear for you to specify the entity or element. When you specify it, the screen redisplays, listing all MANTIS entities that use it.

If you do not know the name of the entity or element you want to cross reference, access the List function for it and select the corresponding number on the List function (see the screen illustration in "List functions," beginning on page 26). The screen will appear, listing all MANTIS entities that use that entity or element.

What-it-uses—entities that an entity uses (enter *nn*,W and press ENTER)

The following screen appears when you access the following options:

♦ From the XREF Main Menu: LH, LI, LP, LT, and enter a number
  corresponding to an entity on that list (enter *nn*,W and press ENTER)
  and options WA, WH, WI, WP, WT.

```
MANT XREF              MANTIS Cross Reference System         YYYY/MM/DD HH:MM:SS
                       List Entities Used By EXTERNAL FILES
User : TEST
       Entity Name : DR                              :
Entity
SL T Lib -------- Name --------------- SL T Lib -------- Name ---------------
 1 3     TEST                           2
 3                                      4
 5                                      6
 7                                      8
 9                                     10
11                                     12
13                                     14
15                                     16
17                                     18
19                                     20
21                                     22
23                                     24
25                                     26
27                                     28
I002 END OF DATA FOR THIS ENTITY, HIT ENTER FOR ELEMENTS USED
Select XREF ==>         Enter - Next-Page,  PF4 - New MANTIS User,  PA2 = Stop
```

User

>**Description** Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

>**Considerations**

>> ♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

>> ♦ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

>> ♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

>> ♦ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

entity type

>**Description** Specifies the type of entity you requested; for example, EXTERNAL FILES.

Entity Name

>**Description** Specifies the name of the entity you requested.

SL

>**Description** (Selection List) Specifies the number corresponding to the listed entity.

T

Description   (Type) Specifies the type of the listed entity.

Options   A   ACCESS (external file view)

C   Called interface program

D   DL/I segment layout

E   External program executed by 'PERFORM "*pppppp*" ' statement

F   MANTIS file view

H   Prompter

I   Interface

N   Unqualified DL/I call profile

P   Program

Q   Qualified DL/I call profile

S   Screen

T   DBMS file view (TOTAL or ULTRA)

V   RDM data view

X   External PERFORMed program (/XCTL)

1   DL/I segment name

2   DL/I PSB name

3   External file

4   DBMS file name

5   DBMS link path

Lib

>   **Description**   (Library) Specifies the user library where the listed entity resides.

>   **Consideration** To obtain the user name for that library, access LU (List Users) from the XREF Main Menu or enter the number in the GET USER FOR NR field.

Name

>   **Description**   Specifies the MANTIS symbolic name of the listed entity.

Select XREF ==>

>   **Description**   *Optional.* The action field lets you specify where the list should begin or the type of cross-reference you want to view.

>   **Options**   Enter a number (1–30) corresponding to an entity

What-it-uses—elements that an entity uses (enter *nn*,W and press ENTER)

The following screen appears when you access the following options:

♦ From the XREF Main Menu: LA, LF, LS, and enter a number corresponding to an entity on that list (enter *nn*,W and press ENTER) and options WF, WX.

```
MANT XREF               MANTIS Cross Reference System          YYYY/MM/DD HH:MM:SS
                        List Elements Used By FILES
User : TEST
Entity Type:   : Name: FILE1                           :
   Element Name                      Type  Dim1 Dim2    Position
SL -----------------------------     ----  ---- ----    --------
 1 FIELD                             T       10
 2
 3
 4
 5
 6
 7
 8
 9
10
11
12
13
14
I003 THESE ARE ALL THE ELEMENTS USED BY THIS ENTITY IN THIS USER
XREF/Page ==>             Enter New Name,  PF4 = New MANTIS User,  PA2 = Stop
```

User

> **Description**   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

> **Considerations**

>> ◆ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

>> ◆ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

>> ◆ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

>> ◆ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

entity type

> **Description**   Specifies the type of entity you requested; for example, "F" for "Internal File."

Name

> **Description**   Specifies the name of the requested entity.

SL

> **Description**   (Selection List) Specifies the number corresponding to the listed element.

Element Name

> **Description**   Specifies the name of the listed element.

Type

Description	Specifies the type of the listed element.
Options	B Binary
	E Symbolic name for an entity
	F Fixed decimal
	K Kanji
	L Large (Big)
	N Numeric (screens only)
	P Packed
	R Reference variable (TOTAL & ACCESS views only)
	S Small
	T Text
	Z Zoned decimal
	- Dash means the item is referenced, but not defined

Dim1

Description	(Dimension 1) Specifies the occurrences of the listed element.

Dim2

Description	(Dimension 2) Specifies the length of the listed element.

Position

Description	Specifies the position of the listed element in an access view or interface.

XREF/Page ==>

Description	*Optional.* The action field lets you specify where the list should display alphabetically or the type of cross-reference you want to view.
Options	Enter a number (1–30) corresponding to the entity you want to cross-reference.

Physical-to-logical cross-references

XREF offers two different physical-to-logical cross-reference screens:

♦ **Physical-to-logical for entities.** See "Physical-to-logical for entities (enter nn and press Pf2)" on page 58.

♦ **Physical-to-logical for elements.** See "Physical-to-logical for elements (enter nn and press Pf2)" on page 60.

The screen under "Physical-to-logical for entities (enter nn and press Pf2)" on page 58 appears when you access the following options:

♦ From the External Entities SubMenu: LC, LD, LF, LL, LP and enter a number corresponding to an entity on that list (enter *nn* and press PF2).

Physical-to-logical for entities (enter *nn* and press PF2)

The following screen shows the second-level physical-to-logical relationship for entities.

In a physical-to-logical cross-reference, a physical external entity (such as a VSAM file, RMS file, or TOTAL file) is referred to by a logical MANTIS entity.

```
MANT XREF                MANTIS Cross Reference System      YYYY/MM/DD HH:MM:SS
User : TEST              Cross Reference For CALLED PROGRAMS
                         External Entity Name : TEST

-----MANTIS Entity-----------   P.L ----MANTIS Program-------------
TEST
TESTTEST









Enter Entity Name,  PF3 = Menu,  PF4 = New MANTIS User,  PA2 = Stop
I002 THESE ARE ALL THE REFERENCES FOR THIS ENTITY
```

User

Description   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

Considerations

♦   The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

♦   To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

♦   Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

♦   If the user name refers to a variable library name, a message indicating this displays to the right of this line.

entity type

Description   Specifies the type of entity requested; for example, CALLED PROGRAMS.

entity name

Description   Specifies the name of the specified entity.

Consideration   To access a cross-reference for another entity, specify the name of that entity here and press ENTER.

MANTIS Entity

Description   Specifies the name of the entity.

P.L

Description   (Program library) This field is filled only if the program is in another user's library. If you want to know what that user is, go to LU (List Users) off the XREF Main Menu or enter the number in the GET USER FOR NR field.

MANTIS Program

Description   Specifies the name of the program.

Physical-to-logical for elements (enter *nn* and press P**F2**)

The following screen appears when you access the following options:

♦ From the DL/I SubMenu: DL, LA and enter a number corresponding to an entity on that list (enter *nn* and press P**F2**).

♦ From the External Entities SubMenu: LA, LE, LI and enter a number corresponding to an entity on that list (enter and press P**F2**).

```
MANT XREF              MANTIS Cross Reference System       YYYY/MM/DD HH:MM:SS
User : TEST                External Element XRef
                           External Element Name : TEST-00001
                                                         --- Element -----
MANTIS Name---------- Typ Lib -----Entity Name -------------- T Dim1 Dim2 Posn
FIELD1                 A      TEST_XX                          T    10   1
                       S      TEST_SCREEN_CHECK                T    7
TEST1                  A      DR                               T    10   1
                       A      TEST                             Z    31   1
                       F      TEST_FILE                        T    9
                       F      TEST_FILE2                       T    9
                       F      TEST_FILE3                       T    9
                       F      TEST_FILE4                       T    9
                       S      TEST_SCREEN                      T    9




 Enter Element Name,  PF3 = Menu,  PF4 = New MANTIS User,  PA2 = Stop
 I002 THESE ARE ALL THE REFERENCES FOR THIS ELEMENT
```

User

Description   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

Considerations

♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

♦ To specify a new user, press P**F4**. The cursor will move to the USER field where you can specify another user.

♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

♦ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

type of cross-reference

Description   Specifies the type of cross-reference; for example, External Element XREF.

element name

Description   *Required.* Specifies the name of the data element for which you require cross-reference information.

Considerations

- ♦ Initially, the cross-reference display will contain the name selected from the Element Listing, or it will be blank if you selected the display from the XREF Main Menu.

- ♦ If the current cross-reference display for one data element name is fully displayed and no completion message is displayed, more cross-references exist. Press ENTER to scroll to the next screen.

- ♦ If you do not want to continue viewing cross-references for the current data element, enter a new name and press ENTER, or press PA2 to return to the previous screen, or press PF3 to return to the previous menu.

- ♦ When a cross-reference display is complete, simply enter a new field name and press ENTER.

MANTIS Name

Description   Specifies the name of the listed entity.

Typ

Description   (Type) Specifies the type of entity that uses the data element.

Options   A   ACCESS (external file view)

C   Called interface program

D   DL/I segment layout

E   External program executed by 'PERFORM "*pppppp*" ' statement

F   MANTIS file view

H   Prompter

I   Interface

N   Unqualified DL/I call profile

P   Program

Q   Qualified DL/I call profile

S   Screen

T   DBMS file view (TOTAL or ULTRA)

V   RDM data view

X   External PERFORMed program (/XCTL)

1   DL/I segment name

2   DL/I PSB name

3   External file

4   DBMS file name

5   DBMS link path

Lib

> **Description**   (Library) Specifies which library the entity resides in.

Entity Name

> **Description**   Specifies the MANTIS entity name that uses the data element.

> **Consideration**   If this name is displayed in high brightness, the entity is not in the MANTIS user shown at the top of the screen. To determine the user, go to the entity cross-reference, obtain a display for this entity, and locate the user number. Go to the User Listing (LU) to find the name associated with the user number or enter the number in the GET USER FOR NR field.

T

Description   (Type) Specifies the data format of the physical element in the listed entity.

Options

    B Binary

    E Symbolic name for an entity

    F Fixed decimal

    K Kanji

    L Large (Big)

    N Numeric (screens only)

    P Packed

    R Reference variable (TOTAL & ACCESS views only)

    S Small

    T Text

    Z Zoned decimal

    - Dash means the item is referenced, but not defined

Considerations

- This field can be a dash for programs, indicating that there is no declaration for the data element in this program.

- If no data displays for the element type, no definition exists for that element in that program. Data displayed in this field indicates the default data type or that the element is defined in an entity used by the program. Having this displayed on the cross-reference indicates that no program change is required when this element is changed, but you should still check the VARIABLE CROSS REFERENCE program listing to determine whether any other fields in the program require change.

Dim1

    Description   (Dimension 1) Specifies the number of occurrences of the data element.

Dim2

    Description   (Dimension 2) Specifies the length of the data element.

Posn

    Description   (Position) Specifies the position of an element on any external interface (such as an external file view or interface).

External entities

Two submenus can be accessed under the heading External Entities on the XREF Main Menu. Entering DL in the action field of the XREF Main Menu displays the DL/I Submenu, which is described in "DL. DL/I—IMS menu" on page 67. Entering EE in the action field of the XREF Main Menu displays the External Entities Submenu, which is described in "EE. menu" on page 70. Both of these submenus offer list and cross-reference functions. For a general description of list functions, see "List functions" on page 26. Cross-reference functions are described in "Cross-reference functions" on page 34.

DL. DL/I—IMS menu

NOTE
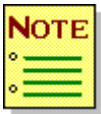
The DL option is for IBM environments only.

Entering DL in the action field of the XREF Main Menu displays the following submenu:

```
 MANT XREF              MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                             DLI / IMS   Menu
                             ---------------
 Please Select One Of The Following ==>   :

 --- Data Elements ---              --XREF Info-----
 DL. DLI/IMS Name List              No. Limitations
 DX. DLI/IMS Name XREF              PF. PF-Key Usage


      ---------------------- Entities ----------------------
 -----List------------      ------XREF-----------      ----Unreferenced-------
 LA. DL/I Segment Areas
 LD. DL/I Segment Layout    XD. DL/I Segment Layout   UD. DL/I Segment Layout
 LP. PSB-Names              XP. PSB-Names
 LQ. Qual. Call Profiles    XQ. Qual. Call Profiles   UQ. Qual. Call Profiles
 LS. Segment Names          XS. Segment Names
 LU. Unqual. Call Prof.     XU. Unqual. Call Prof.    UU. Unqual. Call Prof.


 PA2 = Stop,  PF1 = Help,  PF3 = Menu
```

Please Select One Of The Following ==>

Description   *Optional.* This field is the action field where you specify the type of information you want to view. You can specify list functions (by using a 2-character code from the first column) and cross-reference functions (by using a 2-character code from the second column).

Format   Any 2-character code on this screen

Options   DL   DL/I element names for elements in DL/I Call Profiles

DX   Names of views that use elements in DL/I Call Profiles

LA   Generated names for DL/I physical segment layouts

LD   DL/I Segment Layout Definitions

LP   DL/I PSB names used in MANTIS Call Profiles

LQ   MANTIS Qualified Call Profiles

LS   DL/I segment names used in MANTIS Call Profiles

LU   MANTIS Unqualified Call Profiles

XD   Names of views that use DL/I Segment Layout Definitions

XP   Names of views that use MANTIS Call Profiles

XQ   Names of views that use MANTIS Qualified Call Profiles

XS   Names of views that use MANTIS Call Profiles

XU   Names of views that use MANTIS Unqualified Call Profiles

UD   Unreferenced DL/I segment layouts

UQ   Unreferenced Qualified Call Profiles (those not referenced by the second parameter in the CALL statement)

UU   Unreferenced Unqualified Call Profiles (those not referenced by the second parameter in the CALL statement)

General considerations

♦ Only entities that are coded in MANTIS programs in a CALL statement or specified in the DL/I entities can be cross-referenced. Segments or other data specified in program statements used by unqualified call profiles cannot be cross-referenced.

♦ For program-to-entity cross-reference (enter *nn* and press ENTER), call profile names are cross-referenced from the CALL statement's second parameter, which is the call profile name. XREF will look up qualified call profiles to see if the specified entity exists. If that entity does exist as a qualified call profile, XREF will cross-reference it. If that entity does not exist, XREF will look up unqualified call profiles. If the entity exists as an unqualified call profile, XREF will cross reference it to the program.

♦ If a variable name is used as a call profile name (second parameter), no attempt is made to determine the value. However, the variable name is used to determine if a qualified or unqualified call profile exists for this name.

♦ If the first two parameters of a call profile statement are not coded on one line, the second parameter (the call profile name) is not detected and no cross-reference is generated.

♦ The first eight bytes of the segment layout description are used for the DL/I segment name.

The following diagram shows the DL/I Menu structure:
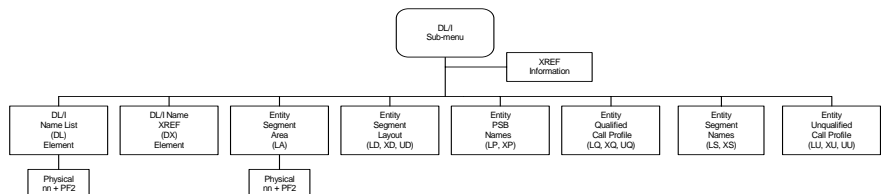
EE. menu

Entering EE in the action field of the XREF Main Menu displays a
submenu of external entities, as shown in the following screen.

```
MANT XREF              MANTIS Cross Reference System      YYYY/MM/DD HH:MM:SS
                         External Entities Menu
                         --------------------
Please Select One Of The Following ==>    :

                 LIST                           XREF
                 ----                           ----
                 LA..External File Data Area ...  XA
                 LC..Called Interface Programs .  XC
                 LD..DBMS Files ...............   XD
                 LE..DBMS Element Names ........  XE
                 LF..External Files ...........   XF
                 LI..Interface Area Layout .....  XI
                 LL..DBMS Linkpath Names .......  XL
                 LP..Performed Programs ........  XP
                 LX..PERFORM/XCTL Programs .....  XX

                 SQ..MANTIS SQL Programs


PA2 = Stop   PF1 = Help,  PF3 = Menu
```

Please Select One Of The Following ==>

Description *Optional.* This field is the action field where you specify the type of information you want to view. You can specify list functions (by using a 2-character code from the first column) and cross-reference functions (by using a 2-character code from the second column).

Format Any 2-character code on this screen

Options LA Names of external file data areas

LC Names of called interface programs

LD Names of DBMS files

LE Names of DBMS elements

LF Names of external files

LI Names of interface area layouts

LL Names of DBMS linkpaths

LP Names of performed programs

LX Names of performed XCTL programs

XA Names of views that use external file data areas

XC Names of views that use called interface programs

XD Names of views that use DBMS files

XE Names of views that use DBMS elements

XF Names of views that use external files

XI Names of views that use interface area layouts

XL Names of views that use DBMS linkpaths

XP Names of views that use performed programs

XX Names of views that use performed XCTL programs

SQ Names of SQL programs

General considerations

♦ If you don't know the name of the entity you want to look at, use the List function for that entity type. When you locate the name of the entity, use the PF2 function to display a physical-to-logical cross-reference listing for that entity. To view entities that use that particular entity, type the number of that entity in the action field and press ENTER. List functions are described in "List functions" on page 26.

♦ If you know the name of the entity you want to look at, and you don't want to page through the List function, use the cross-reference function for that entity type, as described in "Cross-reference functions" on page 34.

♦ The SQ option displays programs that contain MANTIS SQL statements. SQ is a display option only—you cannot perform any other options from the SQ screen.

The following diagram shows the External Entities menu structure:
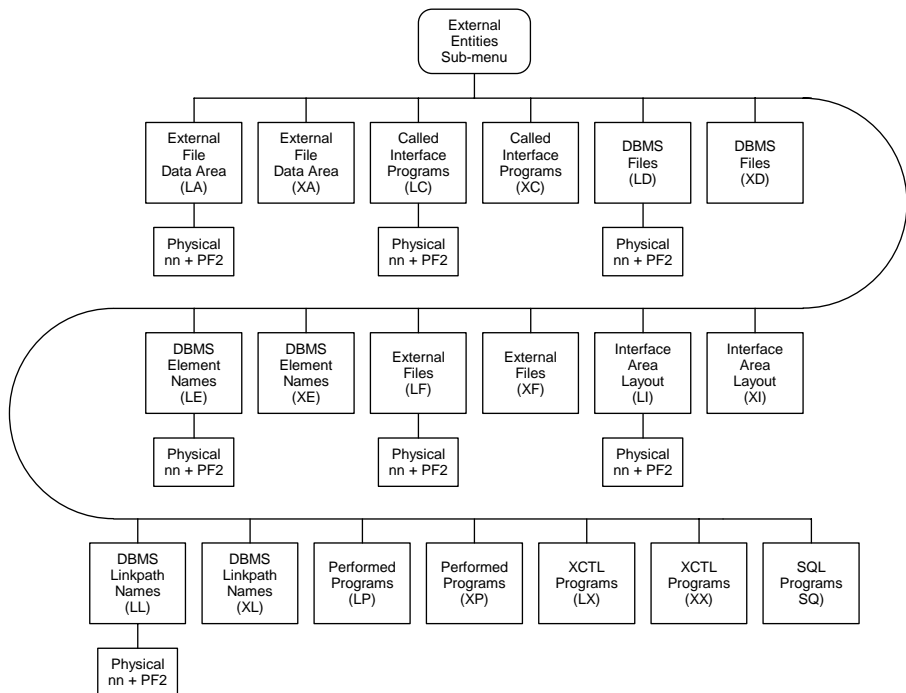
DATA ELEMENTS

The DATA ELEMENTS heading on the XREF Main Menu offers two options: NL (name list) and NX (name cross-reference). If you don't know the name of the element you want to look at, use the Element Name List function (NL), as described in "NL. Name List" on page 73.

If you know the name of the element you want to look at, and you don't want to page through the List of elements, use the cross-reference function for elements (NX), as described in "NX. Name XREF" on page 73.

NL. Name List

Entering NL in the action field of the XREF Main Menu lists data element names on the XREF index in alphabetical order. (A data element name is any name used in a MANTIS entity.) Refer to List functions in "List functions" on page 26 for a description of the screen.

NX. Name XREF

Entering NX in the action field of the XREF Main Menu displays a screen for you to supply the name of a specific element. When you specify an element, the screen lists all MANTIS entities that use that element as well as its data type, dimension, and physical position, as described in "Cross-reference functions" on page 34.

XREF Info

The XREF Info heading offers options that display information on using PF keys, the limitations of the XREF system, and this release of XREF.

PF. PF key usage

Entering PF in the action field displays more information on PF keys. To return from the PF key usage information to the XREF Main Menu, press ENTER. For ease of use, PF1 to PF12 have the same respective functions as PF13 to PF24. Currently, however, only PF1–PF4 are active keys.

NO. limitations

Entering NO in the action field of the XREF Main Menu or in the action field of the DL/I Submenu displays information on limitations that apply to XREF. The information that displays on the limitations screen is documented under the General Considerations of the XREF Main Menu description at the beginning of this chapter. DL/I information is in "DL. DL/I—IMS menu" on page 67.

RN. Release News

Entering RN in the action field lists a summary of enhancements in this release.

LIST

When you enter one of the LIST options in the action field of the XREF Main Menu, the screen shown later in this section appears, displaying the names of the programs that use the specified entity.

Use the LIST function when you want to view cross-reference information for an entity whose name you do not know. If you do know the name of the entity, you can use the XREF function, described in "XREF" on page 86.

Options

LA Names of programs that use a specified external file

LF Names of programs that use a specified MANTIS file

LH Names of programs that use a specified prompter

LI Names of programs that use a specified interface

LP Names of programs that use a specified program

LS Names of programs that use a specified screen

LT Names of programs that use a specified DBMS view

LU Names of users known to XREF

LV Names of programs that use a specified RDM view

LIST options except for LU

When you enter one of the LIST options (except for LU) in the action field of the XREF Main Menu, the following screen appears.

```
MANT XREF                  MANTIS Cross Reference System         YYYY/MM/DD HH:MM:SS
                              Data Element Name Listing
                              EXTERNAL FILE DATA AREA
  1 TEST-00001                              2 TEST-00011
  3 TEST-00015                              4 TEST-00032
  5 TEST-00055                              6 TEST-00075
  7                                         8
  9                                        10
 11                                        12
 13                                        14
 15                                        16
 17                                        18
 19                                        20
 21                                        22
 23                                        24
 25                                        26
 27                                        28
 29                                        30
TO LIST MANTIS NAMES AND USAGE FOR THE PHYSICAL NAME, ENTER NUMBER & HIT PF2
Hit Enter To Page, Or Enter A New Name ==>
Or Select Element No.(1 - 30) For Element-XREF.       PF3 = Menu,  PA2 = Stop
I001 NO MORE ELEMENTS ON THE INDEX
```

This screen lists names alphabetically. To scroll, press ENTER. The next screen will display more names. The numbering on the list function screen will remain 1–30 and will not increase.

---

entity type

Description   Specifies the entity type, as selected from the menu

---

name

Description   Provides an alphabetical list of entity names.

Considerations

- ♦ A name appears only once, even if several different MANTIS user libraries contain this entity type by this name.

- ♦ RDM view names are stored with hyphens, not underscores, regardless of how the name is coded in the MANTIS program.

- ♦ An asterisk (*) displayed before and after an entity name indicates a variable name and not a constant.

Enter A New Name ==> (*action field*)

Description	*Optional.* The action field lets you specify where the list should display alphabetically or the cross-reference and type you want to view.
Format	A number in the range 1 to 30, or a name starting with an alphabetic character.
Options	

From list functions (as specified in the table under "List functions" on page 26), you can perform cross-reference functions:

♦ **Program to entity/element cross-reference (enter *nn* and press ENTER).** Perform the following:

1. In the action field, enter the number corresponding to the entity or element.

2. Press ENTER.

One of the following will appear:

- A cross-reference of programs that use the specified entity

- A cross-reference of entities that use the specified element

♦ **What-it-uses cross-reference (enter *nn*,W and press ENTER).** Perform the following:

1. In the action field, enter the number corresponding to an entity or element.

2. In the action field, follow the entity or element number with ",W".

3. Press ENTER.

A cross-reference of those entities that use the specified element (for all LIST options on the XREF Main Menu except NL, LU, and LV) will appear.

List Users option (LU)

If you select this option, the following screen appears:

```
MANT XREF               MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                             User Name Listing
  No. Name                                    No. Name
  --- ----------------------------            --- ----------------------------
  2   MASTER                                  1   TEST




















Hit Enter To Page, Or Enter A New Name ==>
PF3 = Menu,  PA2 = Stop
I001 NO MORE ENTITIES OF THIS TYPE ON THE INDEX
```

This screen lists names alphabetically. To scroll, press ENTER. The next
screen will display more names. The fields on this screen are defined
below.

No.

> **Description**   (Number) Specifies the number assigned to the user by XREF.

Name

> **Description**   Specifies the name of the user.

Enter A New Name ==> (*action field*)

> **Description**   To position the list, enter the new name and press ENTER.

WHAT (What-it-uses)

When you enter one of the WHAT options in the action field of the XREF Main Menu, the screen shown on the next page appears and displays the names of the entities or elements used by the option you selected.

Use the WHAT function when you want to view cross-reference information for an entity whose name you know. If you do not know the name of the entity, use the LIST function, described in "LIST" on page 75.

Options

WA Elements referenced by a specified external file

WF Elements referenced by a specified MANTIS file

WH Elements referenced by a specified prompter

WI Elements referenced by a specified interface

WP Elements referenced by a specified program

WS Elements referenced by a specified screen

WT Elements referenced by a specified DBMS view

When you enter one of the WHAT options in the action field of the XREF Main Menu, the following screen appears, listing entities used by the specified entity.

```
MANT XREF                MANTIS Cross Reference System         YYYY/MM/DD HH:MM:SS
                         List Entities Used By EXTERNAL FILES
User : TEST
       Entity Name : DR                                :
Entity
SL T Lib -------- Name --------------- SL T Lib -------- Name ----------------
 1 3     TEST                           2
 3                                      4
 5                                      6
 7                                      8
 9                                     10
11                                     12
13                                     14
15                                     16
17                                     18
19                                     20
21                                     22
23                                     24
25                                     26
27                                     28
I002 END OF DATA FOR THIS ENTITY, HIT ENTER FOR ELEMENTS USED
Select XREF ==>          Enter - Next-Page,  PF4 - New MANTIS User,  PA2 = Stop
```

User

Description   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

Considerations

♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

♦ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

♦ If the user name refers to a variable library name, a message indicating this displays to the right of this line.

entity type

Description	Specifies the entity type, as selected from the menu; for example, EXTERNAL FILES.

Entity Name

Description	Specifies the name of the entity.

SL

Description	(Selection List) Specifies the number corresponding to the listed entity.

T

Description   (Type) Specifies the type of the listed entity.

Options

A Access (external file view)

C Called interface program

D DL/I segment layout

E External program executed by 'PERFORM "*pppppp*"' statement

F MANTIS file view

H Prompter

I Interface

N Unqualified DL/I call profile

P Program

Q Qualified DL/I call profile

S Screen

T DBMS file view (TOTAL or ULTRA)

V RDM data view

X External PERFORMed program (/XCTL)

1 DL/I segment name

2 DL/I PSB name

3 External file

4 DBMS file name

5 DBMS link path

Lib

    Description   (Library) Specifies the user library where the listed entity resides.

    Consideration To obtain the user name for that library, access LU (List Users) from the XREF Main Menu.

Name

    Description   Specifies the MANTIS symbolic name of the listed entity.

Select XREF ==> (*action field*)

    Description   *Optional.* Specifies where the list should display alphabetically or the cross-reference and type you want to view.

    Options   Enter a number (1–30) corresponding to the entity you want to cross-reference.

               For options WA, WI, WP, or WT, you can scroll to a second-level screen by pressing ENTER. The second-level screen is shown in the following figure, listing elements used by the specified entity.

```
MANT XREF                 MANTIS Cross Reference System        YYYY/MM/DD HH:MM:SS
                      List Elements Used By EXTERNAL FILES
User : TEST
Entity Type:   : Name: DR                             :
   Element Name                      Type  Dim1 Dim2     Position
SL ----------------------------      ----  ---- ----     --------
 1 REFER                             R
 2 TEST1                             T          10        1
 3 TEST2                             F     5    8         75
 4 TEST3                             T          4         11
 5 TEST4                             F     5    8         15
 6 TEST5                             T          20        55
 7
 8
 9
10
11
12
13
14
I003 THESE ARE ALL THE ELEMENTS USED BY THIS ENTITY IN THIS USER
XREF/Page ==>            Enter New Name,  PF4 = New MANTIS User,  PA2 = Stop
```

User

> **Description**   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

> **Considerations**

>> ♦   The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

>> ♦   To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

>> ♦   Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

>> ♦   If the user name refers to a variable library name, a message indicating so displays to the right of this line.

entity type

> **Description**   Specifies the type of entity; for example, EXTERNAL FILES.

Name

> **Description**   Specifies the name of the requested entity.

SL

> **Description**   (Selection List) Specifies the number corresponding to the listed element.

Element Name

> **Description**   Specifies the name of the listed element.

Type

> **Description** Specifies the type of the listed element.
>
> **Options**
> - B Binary
> - E Symbolic name for an entity
> - F Fixed decimal
> - K Kanji
> - L Large (Big)
> - N Numeric (screens only)
> - P Packed
> - R Reference variable (TOTAL and ACCESS views only)
> - S Small
> - T Text
> - Z Zoned decimal
> - - Dash means the item is referenced, but not defined

Dim1

> **Description** (Dimension 1) Specifies the occurrences of the listed element.

Dim2

> **Description** (Dimension 2) Specifies the length of the listed element.

Position

> **Description** Specifies the position of the listed element in an access view or interface.

XREF/Page ==> (*action field*)

> **Description** *Optional.* Specifies where the list should display alphabetically or the cross-reference and type you want to view.
>
> **Options** Enter a number (1–30) corresponding to the entity you want to cross-reference.

XREF

This option lists programs that use a particular entity.

Use the XREF function when you want to view cross-reference information for an entity or element whose name you know. If you do not know the name of the entity or element, use the LIST function, described in "LIST" on page 75.

Options

XA Programs that reference a specified external file

XF Programs that reference a specified MANTIS file

XH Programs that reference a specified prompter (help)

XI Programs that reference a specified interface

XP Programs that reference a specified program

XS Programs that reference a specified screen

XT Programs that reference a specified DBMS view

XV Programs that reference a specified RDM view

When you enter one of the XREF options in the action field of the XREF Main Menu, the following screen appears.

```
MANT XREF               MANTIS Cross Reference System          YYYY/MM/DD HH:MM:SS
User : TEST                 XREF For ACCESS

      The Following Entities Use  :                              :
                                         :
PL EL  T ------ Name ----------------- PL EL  T ------ Name -----------------




 



Enter = Next-Page,  PF4 = New MANTIS User,  PA2 = Stop   Get User For No.
E003 YOU MUST ENTER AN ENTITY NAME
```

User

> **Description**   Specifies the reference user name for this display. Listed entities not belonging to this user are highlighted.

> **Considerations**

>> ♦ The first time you access any XREF display, this field is blank. The name entered in this field will redisplay on any subsequent entry into a cross-reference display.

>> ♦ To specify a new user, press PF4. The cursor will move to the USER field where you can specify another user.

>> ♦ Entities from this user are displayed in normal brightness; other entities are displayed in high brightness.

>> ♦ If the user name refers to a variable library name, a message indicating so displays to the right of this line.

entity type

> **Description**   Displays the entity type depending on the selection from the menu; for example, ACCESS.

> **Consideration**   To choose another entity type, you must return to the previous menu.

The Following Entities Use: _entity name_

> **Description**   *Required*. Specifies the name of the entity for which you want to display cross-reference information.

> **Considerations**

>> ♦ If this screen is displayed following selection of an entity from an Entity Name Listing, the selected entity name is displayed and can be changed.

>> ♦ Underscores in RDM view names are translated into hyphens.

>> ♦ If the entity name is a variable name, an informational message indicating so displays to the right.

P.L

> **Description** (Program Library) Specifies the program library number if the library in which the program resides is not the library associated with the user name entered above.

> **Consideration** If this library is a variable library name, an asterisk (*) displays before the entity library number. To determine the identity of the MANTIS user, return to the menu and select the User Listing (LU) or enter the number in the field GET USER FOR NR.

E.L

> **Description** (Entity Library) Specifies the entity library number if the library in which the program qualifies the entity is not the library associated with the user name entered above.

> **Consideration** If this library is a variable name, an asterisk (*) displays before the entity library number. To determine the identity of the MANTIS user, return to the menu and select the User Listing (LU) or enter the number in the field GET USER FOR NR.

Name

> **Description** Specifies the names of MANTIS programs that use the entity.

> **Consideration** If the screen is completely filled with cross-references, press ENTER to display the next page.

Get User For No. ###

> **Description** *Optional*. Entering a number in this field will display which user corresponds to that number.

UNREF.

This option lists the entities that are known to XREF, but are not referenced by any MANTIS programs known to XREF.

Options

UA External files not referenced by any MANTIS programs

UF MANTIS files not referenced by any MANTIS programs

UH Prompters (help) not referenced by any MANTIS programs

UI   Interfaces not referenced by any MANTIS programs

UP Programs not referenced by any MANTIS programs

US Screens not referenced by any MANTIS programs

UT DBMS views not referenced by any MANTIS programs

When you enter one of the UNREF options in the action field of the XREF
Main Menu, the following screen appears.

```
MANT XREF                MANTIS Cross Reference System       YYYY/MM/DD HH:MM:SS
                           Unreferenced Entities List
                             EXTERNAL FILE VIEWS


name








Hit Enter To Page, Or Enter A New Name ===>
PF3 = Menu,  PA2 = Stop
THIS FUNCTION MAY HAVE A SLOW RESPONSE TIME. HIT ENTER TO CONTINUE
```

This screen is the only inquiry that may have a prolonged response time.
There are no records of unused entities. To obtain this display, entity
names for this entity type are read, and for each name, cross-reference
records are read. If no cross-reference records are found, the name is
displayed or the next name is read. If you use a large number of entities,
expect a delay.

An entry on this screen indicates one of two conditions:

♦ Creation of the index has been run for entities other than programs.

♦ No programs reference the entities.

---

entity type

Description   Displays the entity type selected from the menu; for example, EXTERNAL FILE VIEWS.

Consideration To display other entity types, return to the XREF Main Menu.

---

name

Description   Lists unreferenced entity names.

Enter A New Name ==> (*action field*)

Description   *Optional.* The action field lets you specify where the list should display alphabetically.

Format   A name starting with an alphabetic character.

General considerations

♦ No option is available for listing unreferenced RDM views because the cross-reference is internal to MANTIS. As a result, XREF can only determine details of referenced entities. A comparison of a list of views from XREF with the SUPRA Directory report of RDM views, however, will indicate unreferenced views.

♦ Unreferenced does not necessarily mean that the entities listed are not used. For programs, it means that there is no chaining to or from a program in the data processed in the batch XREF job. The program could be a standalone program. For other entities, unreferenced means that no program in the processed data uses any of these entities.

♦ This screen is for display only. You cannot perform additional functions from this screen.

Additional Main Menu options

At the XREF Main Menu, you can perform the functions described below.

PA2 = STOP

Description   Pressing PA2 exits from this screen.

Consideration PA2 corresponds to the Cancel function in MANTIS for Open/VMS and Unix.

PF1 = HELP

Description   Pressing PF1 displays help information for using this screen.

CLEAR = EXIT

Description   Pressing the CLEAR key exits from this screen.

Consideration This option is for the IBM environment only.

SI = SIGN-ON

Description   Entering SI in the action field displays the sign-on screen.

Consideration This option is for the IBM environment only.

TU = TUTORIAL

Description   Entering TU in the action field accesses a tutorial that describes how to use XREF. Check with your System Administrator for availability of a sample index which is supplied with XREF. Also, you may want to print a copy of the tutorial before working with it online.

Consideration This option is for the IBM environment only.

3

XREF index maintenance

Information in this chapter is for the IBM environment only. Users of XREF for Open/VMS and Unix environments should refer to the XREF Installation Primer for information on the Index Maintenance job.

You perform XREF index maintenance using Batch MANTIS. It allows you (or your System Administrator) to add or modify data on the index file as often as necessary.

This chapter provides sample jobs for XREF index maintenance and assumes you have a working knowledge of Batch MANTIS. For details on Batch MANTIS, see *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001. Remember that your online inquiries only display cross-reference information on the index (that has been produced by a batch program). You control the type and amount of information input to the index creation batch program from the MANTIS cluster.

Sample jobs

The following sample jobs highlight the portion of the Batch MANTIS run that deals with XREF. Remember that you must provide additional code. For more information on providing additional code, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

♦ If you have no Scenarios or DL/I views, you could specify:

```
USER=SALES,PASSWORD=SALES
TYPE=ALL
```

♦ Otherwise, you could use one of the following:

```
USER=SALES,PASSWORD=SALES
TYPE=PROGRAMS
TYPE=SCREENS
```

(etc.)

…or:

```
USER=PARTS,PASSWORD=PARTS
TYPE=PROGRAMS
```

…or:

```
USER=CUSTOMERS,PASSWORD=CUST
TYPE=PROGRAMS
SELECT=CUSTOMER_MAINT
SELECT=CUSTOMER_INQUIRY
TYPE=ACCESS
SELECT=CUST_CRED_HIST
```

Depending on circumstances, smaller or larger selections from the MANTIS cluster are input to the CREATE_INDEX batch program. The online inquiries only display cross-reference information produced by the batch program.

4

Batch reports

In the IBM environment, inquiries can be run as a batch report. The job REPORT is supplied in the XREF.JCLLIB, using input REPTENTS or REPTELEM, or both, in which the report requests are specified.

Sample JCL is provided in *MANTIS XREF Administration, OS/390, VSE/ESA*, P39-0012.

A

Messages

This appendix lists alphabetically the error messages that may display when using XREF.

CHECK OR ENTER MANTIS USER NAME

Explanation Either you did not supply a user name or the user name you entered is invalid.

Action Enter a valid MANTIS user name. Access LU (List Users) from the XREF Main Menu for a list of users that reside on XREF.

DATA DOES NOT START FROM START OF ENTITY. LOOKS LIKE PRINT DATA IS INCORRECT.

Explanation The program that starts XREF encountered unknown data.

Action Evaluate the line of code that XREF was processing and correct the line.

DELETION OF RECORD FAILED

Explanation The deletion of the private user record was unsuccessful.

Action Check the file definition and ensure that you have the needed access to delete records from the file.

DID NOT GET EXPECTED RECORD LAYOUT HEADING LINE.

Explanation The record layout heading line is not in the format that XREF expects.

Action Contact Cincom support.

DID NOT GET EXPECTED SCREEN FIELD NAME HEADER.

Explanation   The program CREATE_INDEX encountered a screen with an incorrect field name header.

Action   Verify that the screen is in MANTIS 4.2 format.

ELEMENT DOES NOT EXIST ON INDEX

Explanation   The specified element does not exist on the XREF index.

Action   Access an element list for the names of the elements that are on the XREF index.

ENTER NEW SEARCH DATA OR HIT ENTER TO REPEAT ENQUIRY

Explanation   You have reached the end of the results list.

Action   Press ENTER to repeat the inquiry or enter new search data.

ENTITY DOES NOT EXIST ON INDEX

Explanation   The specified entity does not exist on the XREF index.

Action   Access an entity list for the names of the entities that are on the XREF index.

INPUT DOES NOT START WITH CORRECT HEADING. ABORT. CHECK MASTER USER: ATTRIBUTE PRINTER="(60,132)"

Explanation   An incorrect printer specification exists.

Action   Check the program MASTER:SIGN_ON to make sure that ATTRIBUTE(PRINTER)="(60,132)" when printing using Batch MANTIS. The program CSI_XREF:BATCH_SIGNON contains a sample of the necessary code.

NO CROSS REFERENCE FOR THIS ELEMENT NAME.

Explanation   The requested element has no current cross-reference entries.

Action   Check the name of the specified element. It may no longer be used.

NO INPUTDATA FROM MANTIS PRINT

Explanation   There was no output from the Batch MANTIS print of the selected entities.

Action   Verify that the user has entities and resubmit the request.

NO KNOWN USAGE OF THIS ELEMENT.

Explanation   XREF could not find a reference to the specified element.

Action   Check the spelling of the element name and reenter.

NO KNOWN USAGE OF THIS ENTITY.

Explanation   XREF could not find a reference to this entity.

Action   Check the spelling of the entity name and reenter.

NO KNOWN USAGE OF THIS ENTITY FOR PROGRAMS.

Explanation   The requested entity has no current cross-reference entries in any cross-referenced programs.

Action   Check the name of the specified entity. It may no longer be used.

NO KNOWN USAGE OF THIS ENTITY FOR THIS USER.

Explanation   The requested entity has no current cross-reference entries for the specified user.

Action   Check the name of the specified entity and resubmit.

NO KNOWN USAGE OF VIEWS FOR THIS ELEMENT.

Explanation   The requested element has no usage of views on the XREF index.

Action   Check the element name and resubmit.

NO PROFILE NAME FOUND ON INPUT.

Explanation   XREF did not find a profile name for the indicated unqualified call profile.

Action   Correct the call profile and resubmit the job.

NO PROFILE NAME FOUND ON QUALIFIED CALL PROFILE.

Explanation   XREF did not detect a profile name for the indicated qualified call profile.

Action   Correct the call profile and resubmit the XREF job.

NO SEARCH TYPE WAS PASSED.

Explanation   XREF did not pass a search type.

Action   Contact Cincom support.

NO VALID ENTITY TYPE WAS PASSED.

Explanation   The entity type that was passed is not one of the valid types that XREF can process.

Action   Contact Cincom support.

NULL PROGRAM: *xxxxxxxxx* IN USER *yyyyyyyy* IGNORED.

Explanation   The specified program has no program code or variables. It is an empty program with no code.

Action   None

NUMBER MUST CORRESPOND TO KNOWN ENTITY.

Explanation   The number that was entered does not correspond to an entity.

Action   Enter the number that is displayed next to the requested entity.

PHYSICAL TO LOGICAL NOT POSSIBLE FOR PERFORMED PROGRAMS

Explanation   You tried to access a physical to logical cross-reference (enter *nn* and press PF2) for a performed program. The physical to logical function does not apply to performed programs.

Action   Access a valid cross-reference for external entities (enter *nn* and press ENTER).

PRINT FORMAT IS NOT XREF RELEASE 3.1.

Explanation   The printout from XREFC1/XREFP1 is not in the XREF 3.1 format.

Action   Correct the problem and resubmit the job.

PROBLEM READING INPUT FILE - CODE=*xxxx*.

Explanation   The input file may be empty.

Action   Check to see if data exists on the XREFWRK file.

PROBLEM WRITING TO INDEX. RETURN CODE=*xxxx*

Explanation   There is a problem writing to the XREF001 file.

Action   Determine what the problem is by using the return code.

PROBLEM WRITING IN 'XR_ALL_DLI_XREF'. CODE=*xxxx*.

Explanation   The program encountered a problem when trying to write to the XREF001 file.

Action   Use the error code to correct the problem.

PROGRAM LISTING DOES NOT START CORRECTLY.

Explanation   The output from the MANTIS batch print is not in the correct format for XREF.

Action   Obtain the printout of the program that XREF was processing and contact Cincom support.

SERIOUS ERROR IN PROGRAM 'CREATE_INDEX'.

Explanation   The program CREATE_INDEX encountered a major problem processing the input.

Action   Save the output from the job and contact Cincom support.

SERIOUS ERROR IN 'XR_ALL_DLI_XREF'.

Explanation   The record indicated in the error message is causing an error in the XREF program.

Action   Try to correct the problem with the input and resubmit the job.

THE NUMBER MUST CORRESPOND TO A DISPLAYED ELEMENT.

Explanation   The number that was entered does not correspond to an element.

Action   Enter the number that is displayed next to the requested element.

THERE ARE NO REFERENCES TO THIS ELEMENT.

Explanation   XREF could not find a reference to the specified element.

Action   Check the spelling of the element name and reenter.

THERE ARE NO REFERENCES TO THIS ENTITY.

Explanation   XREF could not find a reference to the specified entity.

Action   Check the spelling of the entity name and reenter.

THESE ARE ALL THE ELEMENTS USED BY THIS ENTITY.

Explanation   There are no other elements used by the specified entity.

Action   Enter another entity or press PA2 to return to the previous menu.

THESE ARE ALL THE REFERENCES FOR THIS ELEMENT.

Explanation   There are no more references for the specified element.

Action   Enter another element or press PA2 to return to the previous menu.

THESE ARE ALL THE REFERENCES FOR THIS ENTITY.

Explanation   There are no more references for the specified entity.

Action   Enter another entity or press PA2 to return to the previous menu.

THIS ENTITY MAY NOT EXIST FOR THIS USER. HIT 'PF1' FOR HELP.

Explanation   The requested entity does not exist for the specified user.

Action   Enter another MANTIS user or press PF1 for help.

THIS USER NAME DOES NOT EXIST AS PRIVATE XREF USER.

Explanation   The specified user is not designated as a private XREF user.

Action   Check to see if the user is defined to XREF.

UNEXPECTED XREFLST FILE STATUS OF *xxxx* ON INITIAL OPEN.

Explanation   XREF cannot open the file XREFLST.

Action   Check the file status and verify that the file was created properly. Correct the problem and resubmit the job.

UNEXPECTED XREFWRK FILE STATUS OF *xxxx* ON INITIAL OPEN.

Explanation   There is a problem opening the specified file.

Action   Check the file status and verify that the file was created properly. Correct the problem and resubmit the job.

USER IS NOT ON INDEX. CORRECT SPELLING.

Explanation   The user specified is not on the XREF index.

Action   Access LU (List Users) from the XREF Main Menu for the names of user on the XREF index.

VARIABLE XREF LINE NOT FOUND IN PROGRAM.

Explanation   XREF cannot find a variable listing for the program.

Action   Verify that the Batch MANTIS print used XREF=VAR to print only program variables. Check the program that XREF was processing to see if special conditions exist.

'WHAT-IT-USES' IS NOT POSSIBLE FOR ELEMENTS

Explanation   You tried to access a what-it-uses cross-reference (enter *nn*,W and press ENTER) for an element. The what-it-uses function does not apply to elements.

Action   Access a valid cross-reference for elements (enter *nn* and press ENTER).

'WHAT-IT-USES' IS NOT POSSIBLE FOR EXTERNAL ENTITIES

Explanation   You tried to access a what-it-uses cross-reference (enter *nn*,W and press ENTER) for an external entity. The what-it-uses function does not apply to external entities.

Action   Access a valid cross-reference for external entities (enter *nn* and press ENTER) or (enter *nn* and press PF2).

YOU MUST ENTER A MANTIS USER NAME.

Explanation   A user name was not supplied.

Action   Enter a valid user name that is on the XREF index. Access LU (List Users) from the XREF Main Menu for the names of users on the XREF index.

YOU MUST ENTER A NEW DATA ELEMENT NAME.

Explanation   A valid data element name was not supplied.

Action   Enter a data element name or press PA2 to return to the XREF Main Menu.

YOU MUST ENTER A NEW DATA ENTITY NAME.

Explanation   A valid data entity name was not supplied.

Action   Enter a data entity name or press PA2 to return to the XREF Main Menu.

YOU MUST ENTER AN ELEMENT NAME.

Explanation   A valid element name was not supplied.

Action   Enter an element name to receive a cross-reference of the desired element.

YOU MUST ENTER AN ENTITY NAME

Explanation   A valid entity name was not supplied.

Action   Enter an entity name to receive a cross-reference of the desired entity.

YOU MUST ENTER A NEW ENTITY NAME.

Explanation   A valid entity name was not supplied.

Action   Enter an entity name to receive a cross-reference of the desired entity.

B

Quick reference

This appendix shows the sequence of screens and all the cross-reference options that XREF offers. Some of the figures and tables in this appendix appear elsewhere in this manual, and are noted accordingly. The purpose of this appendix is to provide quick-reference information in one place.

Sequence of screens—XREF Main Menu

The following figure shows the sequence of screens from the XREF Main Menu. This figure appears in
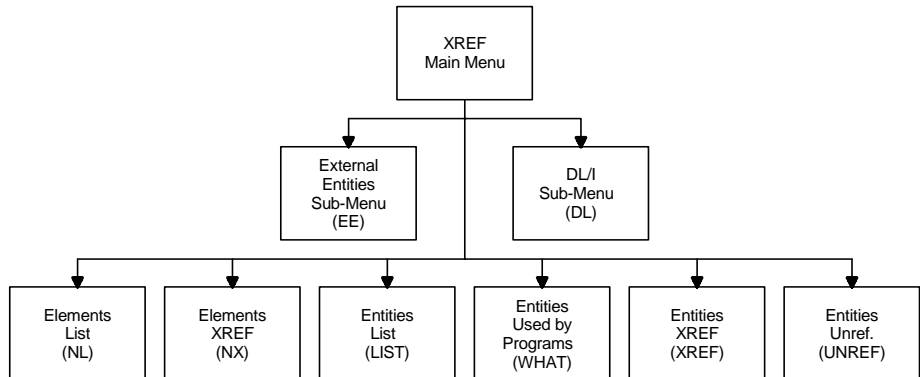
Sequence of screens—DL/I submenu

The following figure shows the sequence of screens from the DL/I
submenu. This figure appears in "DL. DL/I—IMS menu" on page 67.
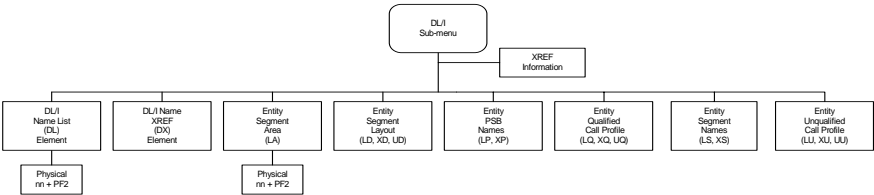
Sequence of screens—External Entities submenu

The following figure shows the sequence of screens from the External Entities submenu. This figure appears in "EE. menu" on page 70.
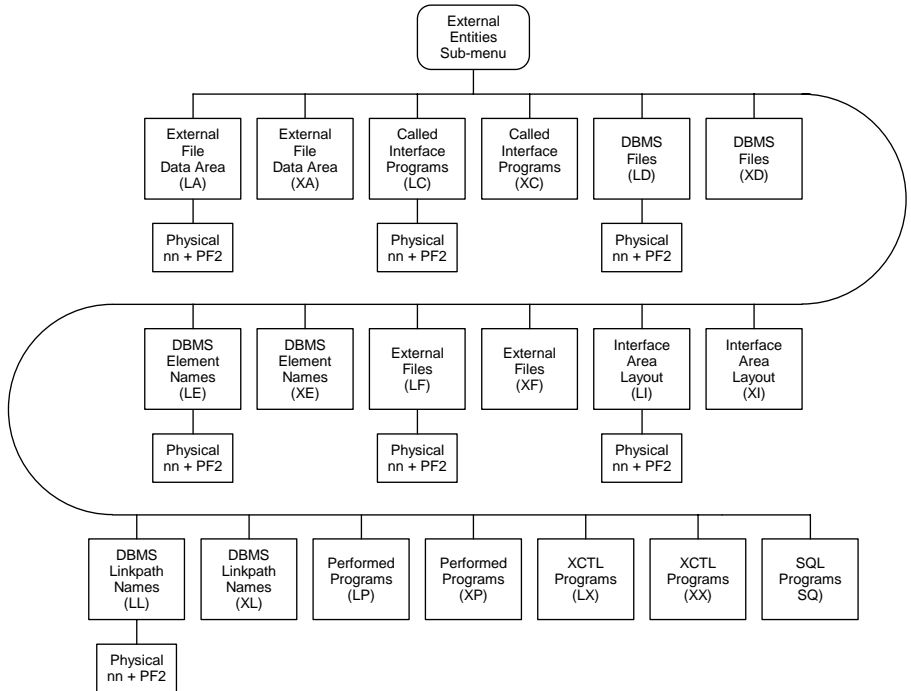
Main Menu options

The following table shows the type of information displayed from options on the XREF Main Menu. This table appears at the beginning of "Online inquiries" on page 19.

Submenu option	Displays this information
DL (DL/I Menu)	DL/I submenu with list and cross-reference options (for the IBM environment only)
EE (External Entities)	External Entities submenu with list and cross-reference options

Informational option	Displays this information
NO (Not Offered)	Limitations of XREF
PF (PF Keys)	Information on PF keys
RN (Release News)	Information on this release of XREF

List option	Displays this information
NL (Name List)	Data element names
LA (List Accesses)	External file view names (VSAM or RMS)
LF (List Files)	MANTIS files
LH (List Help)	Prompters
LI (List Interfaces)	Interfaces
LP (List Programs)	Programs
LS (List Screens)	Screens
LT (List TOTAL)	DBMS views (TOTAL or ULTRA)
LU (List Users)	Users known to XREF
LV (List Views)	RDM views
SI (Sign on)	Sign on as another user
TU (Tutorial)	XREF online tutorial
UA (Unref. Accesses)	External files not referenced by MANTIS programs
UF (Unref. Files)	MANTIS files not referenced by MANTIS programs
UH (Unref. Help)	Prompters not referenced by MANTIS programs
UI (Unref. Interfaces)	Interfaces not referenced by MANTIS programs
UP (Unref. Programs)	Programs not referenced by other MANTIS programs
US (Unref. Screens)	Screens not referenced by MANTIS programs
UT (Unref. TOTAL)	DBMS views not referenced by MANTIS programs

Cross-reference option	Displays this information
NX (Name XREF)	MANTIS entities that use a specified element
WA (What Accesses)	Elements used by a specified external file
WF (What Files)	Elements used by a specified MANTIS file
WH (What Help)	Prompters used by a specified prompter
WI (What Interfaces)	Elements used by a specified interface
WP (What Programs)	Entities used by a specified program
WS (What Screens)	Elements used by a specified screen
WT (What TOTAL)	Elements used by a specified DBMS view
XA (XREF Accesses)	Programs that use a specified external file
XF (XREF Files)	Programs that use a specified MANTIS file
XH (XREF Help)	Programs that use a specified prompter
XI (XREF Interfaces)	Programs that use a specified interface
XP (XREF Programs)	Programs that use a specified program
XS (XREF Screens)	Programs that use a specified screen
XT (XREF TOTAL)	Programs that use a specified DBMS view
XV (XREF RDM Views)	Programs that use a specified RDM view

List functions

The following table shows the type of information displayed from all list functions. This table appears in "List functions" on page 26.

Main menu list option	Displays this information	Where-used cross-ref*	What-it-uses cross-ref**
NL (Name List)	MANTIS data element names	X	
LA (List Accesses)	External file view names	X	X
LF (List Files)	MANTIS files	X	X
LH (List Help)	Prompters	X	X
LI (List Interfaces)	Interfaces	X	X
LP (List Programs)	Programs	X	X
LS (List Screens)	Screens	X	X
LT (List TOTAL)	DBMS views	X	X
LU (List Users)	Users	X	
LV (List Views)	RDM views	X	
UA (Unref. Accesses)	External files not referenced by MANTIS programs		
UF (Unref. Files)	MANTIS files not referenced by MANTIS programs		
UH (Unref. Help)	Prompters not referenced by MANTIS programs		
UI (Unref. Interfaces)	Interfaces not referenced by MANTIS programs		
UP (Unref. Programs)	Programs not referenced by other MANTIS programs		
US (Unref. Screens)	Screens not referenced by MANTIS programs		
UT (Unref. TOTAL)	DBMS views not referenced by MANTIS programs		

*   Enter *nn* and press ENTER
**   Enter *nn*,W and press ENTER

External entities list option	Displays this information	Where-used cross-ref*	Physical / logical cross-ref**
LA (List Accesses)	External file data area	X	X
LC (List Called)	Called interface programs	X	X
LD (List DBMS)	DBMS files	X	X
LE (List Elements)	DBMS elements	X	X
LF (List Files)	External files	X	X
LI (List Interfaces)	Interface area layout	X	X
LL (List Linkpaths)	DBMS linkpaths	X	X
LP (List Performed)	PERFORMed programs	X	
LX (List XCTL)	PERFORM/XCTL programs	X	
SQ (SQL)	MANTIS SQL programs		

*   Enter *nn* and press ENTER
**   Enter *nn* and press PF2

DL/I list option (IBM only)	Displays this information	Where-used cross-ref*	Physical / logical cross-ref**
DL (DL/I List)	DL/I element names for elements in DL/I Call Profiles	X	X
LA (List Accesses)	Generated names for DL/I physical segment layouts	X	X
LD (List Definitions)	DL/I segment layout definitions	X	
LP (List PSBs)	DL/I PSB names used in MANTIS Call Profiles	X	
LQ (List Qualified)	MANTIS Qualified Call Profiles	X	
LS (List Segments)	DL/I segment names used in MANTIS Call Profiles	X	
LU (List Unqualified)	MANTIS Unqualified Call Profiles	X	
UD (Unref. DL/I)	Unreferenced DL/I segment layout		
UQ (Unref. Qualified)	Unreferenced Qualified Call Profiles (those not referenced by the second parameter in the CALL statement)		
UU (Unref. Unqualified)	Unreferenced Unqualified Call Profiles (those not referenced by the second parameter in the CALL statement)		

*   Enter *nn* and press ENTER
**   Enter *nn* and press PF2

Cross-reference functions

The following table shows the type of information displayed from all cross-reference functions. This table appears in "Cross-reference functions" on page 34.

Main menu cross-reference option	Displays this information
NX (Name XREF)	Entities that use an element
WA (What Accesses)	Elements referenced by an external file
WF (What Files)	Elements referenced by a MANTIS file
WH (What Help)	Prompters referenced by a prompter
WI (What Interfaces)	Elements referenced by an interface
WP (What Programs)	Entities referenced by a program
WS (What Screens)	Elements referenced by a screen
WT (What TOTAL)	Elements referenced by a DBMS view
XA (XREF Accesses)	Programs that reference an external file
XF (XREF Files)	Programs that reference a MANTIS file
XH (XREF Help)	Programs that reference a prompter
XI (XREF Interfaces)	Programs that reference an interface
XP (XREF Programs)	Programs that reference a program
XS (XREF Screens)	Programs that reference a screen
XT (XREF TOTAL)	Programs that reference a DBMS view
XV (XREF RDM View)	Programs that reference an RDM view

External entities cross-reference option	Displays this information
XA (XREF Accesses)	Views that reference an external view
XC (XREF Called)	Programs that reference a called interface program
XD (XREF DBMS)	Entities that reference a DBMS file
XE (XREF Elements)	Entities that reference a DBMS element
XF (XREF Files)	Entities that reference an external file view
XI (XREF Interfaces)	Entities that reference an interface area layout
XL (XREF Linkpaths)	Entities that reference a DBMS linkpath
XP (XREF PERFORMed)	Entities that reference a PERFORMed program
XX (XREF /XCTL)	Entities that reference a PERFORM/XCTL program

DL/I cross-reference option (IBM only)	Displays this information
DX (DL/I XREF names)	Entities that reference a DLI/IMS name
XD (XREF Definitions)	Entities that reference a PERFORM/XCTL segment layout definition
XP (XREF PSB)	Entities that reference a PSB
XQ (XREF Qualified)	Entities that reference a qualified call profile
XS (XREF Segments)	Entities that reference a segment
XU (XREF Unqualified)	Entities that reference an unqualified call profile

Cross-references by entity type

The following table shows which types of cross-references can be displayed for MANTIS and external entity types.

	List	XREF		WHAT		UNREF	Phys-to-Log XREF			
		El/En	En/En	En/El	En/En		Phys En	Phys El/En	Phys En	Phys En/En
MANTIS Elements	X	X								
MANTIS Entities										
ACCESS	X		X	X	X	X				
Files	X		X	X		X				
Prompters	X		X	X		X				
Interfaces	X		X	X	X	X				
Programs	X		X	X		X				
Screens	X		X	X		X				
DBMS Views	X		X	X	X	X				
Users	X	O								
RDM Views	X	X								

	List	XREF	WHAT	UNREF	Phys-to-Log XREF	
External Entities						
Ext File Areas	X			X	X	
Called Pgms	X					X	X
DBMS Files	X					X	X
DBMS Elements	X			X	X	
External Files	X					X	X
Interface Area	X			X	X	
DBMS Linkpath	X					X	X
PERFORM Prgms	X					X	
PERFORM/ XCTL	X					X	
SQL	X					

O = You can display the entity-to-entity relationship for users, but only from the users' list.
El = Element
En = Entity
Phys = Physical

Glossary of terms

action field

Field provided on XREF screens for you to specify the option you want (such as a 2-character code that displays list or cross-reference information).

asterisk (*)

XREF processes variable entities for the name, but not for the assignments into the name. So, the variable name displays on XREF screens as a soft-coded variable and is noted with an asterisk (*) before and after the name.

cross-reference functions

Display cross-reference information for the entity or element you specify. All entity cross-reference screens are exactly the same whether you access them through a list function or from a menu (the XREF Main Menu, the DL/I Submenu, or the External Entities Submenu). Element cross-reference screens are also the same whether you access them through a list function or from a menu.

dash (-)

On the LP option (List Programs), a dash before the program name on the list means that the specified program refers to the listed program. Without a dash, the listed program refers to the specified program.

EL (Entity Library)

Specifies the library number for the entity as defined in the listed program.

first-level screen

The screen that initially displays when you access a cross-reference function. Some cross-reference functions let you access a second-level screen; for example, for options WA, WI, WP, or WT on the XREF Main Menu, you can scroll to a second-level screen by pressing ENTER.

list functions

Display all the names of a specified entity or element type for you to scroll through. From list functions you can perform cross-reference functions.

nn,W

On any of the list options (except for NL, LU, and LV), you can enter "*nn*,W" to display a list of the programs that use the entity you specify ("*nn*" is a number in the range 1–30, representing one of the entities listed on the screen, and "W" represents "what-it-uses"). After entering *nn*,W, a cross-reference screen displays.

PL (Program Library)

Specifies the library number for each listed program.

physical-to-logical cross-reference (enter *nn* and press PF2)

Enter the number corresponding to an entity or element in the action field and press PF2 to display a physical-to-logical cross-reference. Two different screens can be displayed: one for entities and one for elements. A physical-to-logical cross-reference is one in which a physical external entity (such as a VSAM file, RMS file, or TOTAL file) is referred to by a logical MANTIS entity.

prefixed entities

When prefixed entities are used, data element names that are cross-referenced are the prefixed names, not the names in the entity. Only variables referred to in the program appear on XREF screens.

variable name

XREF processes variable entities for the name, but not for the assignments into the name. So, the variable name displays on XREF screens as a soft-coded variable and is noted with an asterisk (*) before and after the name.

where-used cross-reference (enter *nn* and press ENTER)
what-it-uses cross-reference (enter *nn*,W and press ENTER)

Enter the number corresponding to an entity followed by ",W" in the action field to display a list of the elements that the specified entity uses (for all LIST options on the XREF Main Menu except NL, LU, and LV). For programs (LP option), two screens will be displayed. The first-level screen shows entities used by the specified program. The second-level screen (accessed by pressing ENTER to scroll forward) shows elements used by the specified program.

where-used cross-reference (enter *nn* and press ENTER)

Enter the number corresponding to the entity or element and press ENTER to display a list of programs that use the specified entity or a list of entities that use the specified element.

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